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European Union Committee

10th Report of Session 2013–14

Counting the Cost of Food Waste: EU Food Waste Prevention

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Witness names without a question reference refer to written evidence.

SUMMARY

Food waste is a major public policy issue. Consumers in industrialised countries waste almost as much food as the entire net food production of sub-Saharan Africa. The global carbon footprint of wasted food has been estimated as more than twice the total greenhouse gas emissions of all road transportation in the United States (US).

Despite the compelling need for immediate action, the development of a policy framework is bedevilled by the complexity of defining and monitoring food waste. This is a particular challenge at the earlier parts of the supply chain—on farms—and goes some way to explaining the weak progress in this area at both the European Union (EU) and Member State levels compared with other areas of waste policy. The complexity of defining and monitoring food waste must not continue to prevent action.

We support the development of EU-wide aspirational targets for each level of the supply chain, assisted by a strategic approach, in order to reduce food waste and to encourage action across Europe. The ultimate objective of such an approach should be to tackle food waste caused by a lack of cooperation between component parts of the supply chain. Retailers, we argue, lie at the heart of this approach. They influence the behaviour of producers, manufacturers and consumers but, thus far, have failed to take their responsibilities sufficiently seriously.

The EU has an important role to play in encouraging cooperation throughout the supply chain. It must also look at its own regulatory framework and consider where that may impede food waste prevention throughout the component parts of the supply chain. The concept of the 'waste hierarchy' is intrinsic to the supply chain approach, and is linked to EU regulation. The hierarchy dictates the order in which waste should be managed, from prevention through to disposal. We recommend a food use hierarchy, which would place greater emphasis on the redistribution of surplus food to humans, through food banks and charities. If food is not suitable for human consumption, it should then be transferred to animals if safe to do so.

The waste of environmental and economic resources represented by food waste is a serious cost to society that needs to be urgently addressed. At a strategic level, this is a task for the European Commission, working with the Member States, but it is also one that can be tackled at a local and, even, individual level. There is much to do, but we were nevertheless encouraged by examples given during the inquiry of actions that have already been taken. There is clearly plenty of emerging willpower to address the issue. What is now required is coordination of those efforts within a clear and urgent framework for action.

Counting the Cost of Food Waste: EU Food Waste Prevention

CHAPTER 1: INTRODUCTION

The impetus behind the inquiry

1. It has been estimated that 89 million tonnes of food are wasted each year in the EU, a figure which could rise to approximately 126 million tonnes by 2020 if no action is taken.[1] The United Nations' Food and Agriculture Organisation (FAO) states that every year consumers in industrialised countries waste approximately 222 million tonnes of food, which is almost as much as the entire net food production of sub-Saharan Africa, equating to 230 million tonnes.[2]

2. Food waste has important economic, environmental and social implications. A tonne of food wasted in food manufacturing in the UK is estimated to have a value of at least £950.[3] The global carbon footprint of wasted food has been estimated as more than twice the total greenhouse gas emissions of all road transportation in the US in 2010.[4] With the global population expected to grow rapidly over the next decade, such wastage will become even less sustainable as demand for food rises.[5] Furthermore, food and drink production requires substantial inputs of water, energy and pesticides. It is increasingly recognised that making efficient use of resources must be at the heart of policy making. In addition, others have noted that manufacturers could increase their profits by 12% every year by becoming more resource efficient.[6] The combination of all these factors led us to conduct this inquiry.

3. We feel that the scale of the problem requires significant and urgent action, despite outstanding issues relating to definition and monitoring.

Evolving European policy

4. This inquiry was stimulated by evolving policy at the EU level. The European Parliament adopted a resolution on 19 January 2012 on how to avoid food wastage,[7] which recommended that the European Commission take practical measures towards halving food waste by 2025. The

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1 *Preparatory study on food waste across EU 27*, BIO Intelligence Service, a report commissioned by the European Commission, October 2010

2 *Global food losses and food waste: extent, causes and prevention*, the Swedish Institute for Food and Biotechnology, May 2011, a report for the Food and Agriculture Organisation of the United Nations

3 Q 202, FDF, WRAP

4 *Food wastage footprint: Impacts on natural resources – Summary Report*, Food and Agriculture Organisation of the United Nations, 2013

5 Q 34, Q 281, ARAMARK, FDF, IME, NFU

6 *'Sweating our Assets': Productivity and Efficiency across the UK Economy*, Conservative 2020 Group, February 2014

7 *European Parliament resolution of 19 January 2012 on how to avoid food wastage: strategies for a more efficient food chain in the EU (2011/2175 (INI))*, European Parliament

Commission recommended in its Roadmap to a Resource Efficient Europe, in 2011, that disposal of edible food waste should be halved by 2020.[8] At that stage, the Commission also promised a Communication on Sustainable Food, which is due to be published in 2014.

5. In parallel, the Commission is pursuing other avenues to tackle the problem. It published a Retail Action Plan in January 2013, including a section on food waste reduction.[9] The Commission indicated that, in the context of existing EU Platforms, such as the Retail Forum for Sustainability, it will support retailers to implement actions to reduce food waste without compromising food safety.

6. The EU's body of waste policy more generally is under review by the Commission during 2014. Clear links between food waste and other waste policies are made during the report, particularly in Chapter 5.

7. Finally, 2014 is a pivotal year for the design of programmes that implement key policies such as the reformed Common Agricultural and Fisheries Policies, both of which, as we explore in Chapter 4, pertain to the food waste prevention debate.

The food waste debate context

8. Thus far, there is no common definition of food waste. The UK's Waste and Resources Action Programme (WRAP) defines it as all food and drink discarded throughout the entire food chain, but has also disaggregated it into three types of waste[10]: unavoidable waste[11]; possibly avoidable[12]; and avoidable waste[13]. Data and frameworks for the monitoring and reporting of food waste are also, as we explore in the report, lacking at the EU level and, often, at the national level.

9. Food is wasted throughout the entire supply chain[14], not only during final consumption. It is affected by interactions along the supply chain—for example, contractual relations, cosmetic standards, timings of delivery, or labelling by retailers. Levels of food waste can also be affected by regulatory approaches to matters such as food marketing standards, food hygiene, date labelling, animal health and waste management. While some of these issues, such as waste management priorities, can be tackled at a local level, some require consideration at an EU level.

10. Among EU Member States, some action is already being taken, as illustrated throughout the report. Action is often in the form of voluntary agreements, such as the UK's Courtauld Commitment (see Appendix 5). Stakeholders

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8 COM(2011) 571

9 COM(2013) 36

10 *Household Food and Drink Waste in the United Kingdom 2012*, Final Report, WRAP

11 Waste arising from food and drink preparation that is not, and has not been, edible under normal circumstances. This includes egg shells, pineapple skin, apple cores, meat bones, tea bags and coffee grounds.

12 Food and drink that some people eat and others do not, such as bread crusts and potato skins.

13 Food and drink thrown away because it is no longer wanted or has been allowed to go past its prime. It includes foods or parts of foods that are considered edible by the vast majority of people.

14 For the purposes of this report, the supply chain is: producers and growers; manufacturers and processors; the hospitality sector and retailers; and consumers.

from across the supply chain are beginning to cooperate on some of the key issues in the context of an EU-funded research project known as FUSIONS (Food Use for Social Innovation by Optimising Waste Prevention Strategies) (see Appendix 6). Such initiatives tend to be taken in isolation from each other, rather than within the context of a broad strategy.

What the inquiry covers

11. This inquiry has taken into account a range of issues surrounding the food waste debate across Europe, including: the challenges surrounding a common definition of 'food waste'; the reliability and amount of data and evidence collected on food waste; the possible inclusion of an EU target; food waste along the entire supply chain; the impact of EU regulation; respecting the 'waste hierarchy'; and what, if any, strategic role the EU should play.

12. Our focus is the prevention and reduction of food waste, rather than its management once created. The House of Lords' Science and Technology Committee recently published a report exploring how carbon-containing wastes (including food waste) can be transformed into useful, high value products.[15]

13. As this inquiry has focused on the European context, we have not considered the issue of any food waste associated with EU imports from developing countries. Furthermore, we have not considered the use of genetically modified food, the issue of overconsumption or historic overproduction caused by the Common Agricultural Policy (CAP).

14. We also highlight that, although much reference is made to work being conducted in the UK and the Netherlands, this is not because we consider them to be superior in terms of tackling food waste. Our evidence was clear that these two countries are taking a lead on the issues covered by this inquiry, particularly in relation to available data and evidence. Good work is certainly being conducted in other countries across Europe, as we explain in Appendix 8.

Our aim

15. Whilst this report is made to the House, it is also aimed at a wide range of policymakers and others, within the UK and across the EU. In particular, we trust that both the current and incoming Commission will take note of our report and we look forward to the Commission's response in the context of the political dialogue between the Commission and national parliaments. Our hope is that this report will also inspire governments of individual Member States and stakeholders throughout the entire supply chain. We are contributing to an ongoing debate, and we do not prescribe one single solution. Instead, we suggest a range of practical options, which we hope will move the food waste debate on from rhetoric to action.

16. We issued our call for evidence in August 2013 and took oral evidence from a range of UK and EU witnesses between October 2013 and January 2014. Overall, we received 27 pieces of written evidence and took oral evidence

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15 Science and Technology Committee, *Waste or resource? Stimulating a bioeconomy* (3rd Report, Session 2013-14, HL Paper 141)

from 59 witnesses, held over 22 evidence sessions. In addition to the evidence taken in the UK, we were fortunate to speak with stakeholders in the Netherlands, who ranged from government departments to representatives of Dutch food banks. Our findings are of relevance to policies within the broader EU, with some reference to how this might impact the UK. It must, however, be stressed that we did not concentrate on UK policy.

17. The Members of the Agriculture, Fisheries, Environment and Energy Sub-Committee who carried out the inquiry are listed in Appendix 1, which shows their declared interests. We are grateful for the written and oral evidence that was submitted to the inquiry; the witnesses who provided it are shown in Appendix 2. We are also grateful to Dr Julian Parfitt, Principal Resource Analyst, Oakdene Hollins Research and Consulting, who acted as Specialist Adviser to the inquiry.

18. The call for evidence is shown in Appendix 3. The evidence received is published online.[16]

19. **We make this report to the House for debate.**

[16] Evidence published online is available at http://www.parliament.uk/hleud.

CHAPTER 2: DEFINING, MONITORING, AND SETTING TARGETS FOR FOOD WASTE

> "By 2020 […] disposal of edible food waste should have been halved in the EU."[17]

20. It was on this target, set by the European Commission in 2011, that we initially based our inquiry. As we quickly learned, however, this apparently simple statement is fraught with difficulties. Underlying the issue of a target are three fundamental questions, which we set out to address in this chapter:

- How should food waste be defined?
- How can food waste be measured?
- Can a target be set, and action taken, before decisions have been made on definitions and monitoring?

Defining food waste

21. As yet, there is no commonly agreed definition of 'food waste', although the World Resources Institute is coordinating the development of a common global approach to defining and measuring food waste, known as the Food Loss and Waste Protocol.[18] At an EU level, 'waste' is generically defined as "any substance or object which the holder discards or intends or is required to discard".[19] Application of that definition to food is, though, far from simple.

22. At the heart of the debate over a definition is a question as to whether such a definition can apply throughout the supply chain, from 'farm to fork'. The difficulty was apparent in the different language and terms of reference used in the evidence heard and submitted by those representing different stages of the food supply chain (see Figure 1).[20]

17 COM(2011) 571

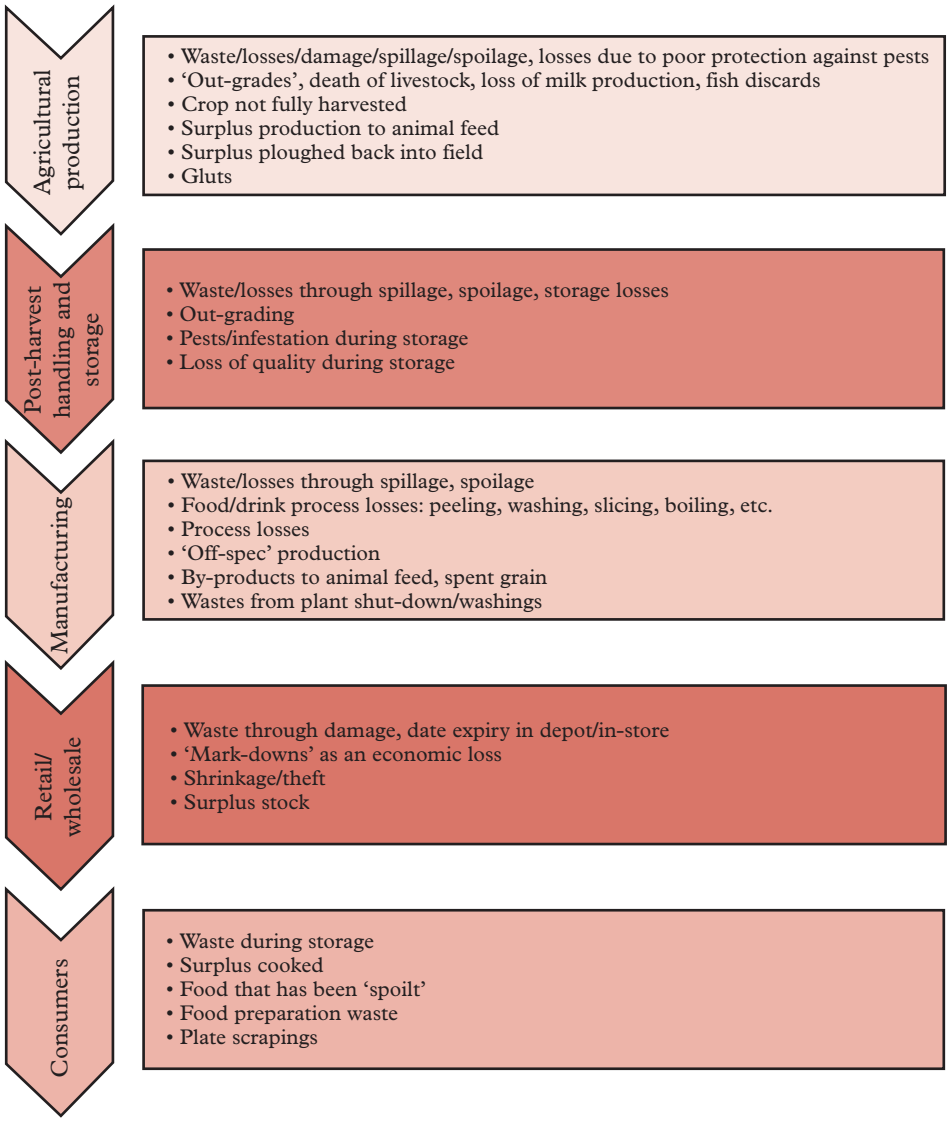
18 Q 40, Q 217, Q 283

19 Directive 2008/98

20 Q 40, Q 50, Q 65, Q 165, Q 247

FIGURE 1

The language of food waste along the supply chain



23. Waste at the producer end—farmers and fishermen—is considered to be particularly complex. Crops may be grown, but never harvested, for unavoidable reasons such as the weather and crop disease. Once harvested, they may be wasted because of demand fluctuation, shape and damage during harvest or storage. Livestock and fish may be wasted as a result of disease, regulation and cultural attitudes to the consumption of certain products, such as offal.[21]

24. Moving further along the supply chain, waste may be more evident but remains challenging to define.[22] From the manufacturer through to the consumer, food waste includes unavoidable material such as egg shells, pineapple skin, apple cores, meat bones, tea bags and coffee grounds. On the other hand, some waste is more easily identifiable, including food left uneaten on a plate in a restaurant and, at home, food purchased but not consumed.

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21 Q 16, Q 40, Q 134, Q 224, Q 287, Defra, IME, NFU, WRAP

22 Q 148

25. Against that complex background, there have been attempts to define food waste. During our inquiry, the most commonly referenced definition of food waste currently available was that of the FAO (see Box 1), a definition which considers that food waste through the supply chain needs to be differentiated and that unavoidable material should not be considered as food waste.

BOX 1

FAO definition of food waste

The FAO makes a distinction between the unintended "food losses" at the beginning of the supply chain from producer through to processing and manufacturing, and "food waste" towards the end (from retail and final consumption) where the food discarded is more likely to be as a result of an intended decision, particularly in relation to consumers. It also excludes 'unavoidable' or 'inedible' material from food loss/waste.[23]

26. A number of witnesses expressed support for the FAO definition and, in the absence of other definitions, it has been adopted by the "Every Crumb Counts" Joint Food Wastage Declaration, launched by FoodDrink Europe.[24]

27. Others disagreed that a distinction should be made between waste at different stages of the supply chain.[25] The UK Government explained that "Using 'loss' for part of the supply chain and 'waste' for another part separates into two terms something which often has full supply chain drivers and impacts."[26]

28. WRAP proposed its own definition aligned to the need to focus efforts on food waste prevention: "Food waste is any food (or drink) produced for human consumption that has, or has had, the reasonable potential to be eaten, together with any associated unavoidable parts, which are removed from the food supply chain."[27] Similarly, a number of witnesses summarised their perception of food waste as any food that was originally produced for human consumption that is then used in other ways.[28] This included a clear view from environmental and farming organisations that all food wasted, even when due to unavoidable natural conditions, should be considered to be food waste. It was acknowledged that a distinction should therefore be made between avoidable and unavoidable food waste and between the policy approaches to those types of waste.[29]

29. The FUSIONS project (a pan-European initiative, which is currently working on standard approaches to food waste definition and measurement; see Chapter 6 and Appendix 6) is finalising a common definition that can be applied to all food supply chain stages, food product categories and at different geographical scales. The draft final version of this is currently being

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23 *Global food losses and food waste: extent, causes and prevention*, the Swedish Institute for Food and Biotechnology, May 2011, a report for the Food and Agriculture Organisation of the United Nations

24 Q 27, Q 40, "Every Crumb Counts" Joint Food Wastage Declaration

25 Q 65, Defra supplementary, WRAP

26 Defra

27 WRAP

28 Q 65, Q 113, Q 134, Q 265, Unilever

29 Q 16, Q 40

peer reviewed and was due to be published in spring 2014. The approach in its current form uses the term 'food wastage' to refer to only the edible fraction of food waste.[30]

30. There was a further question as to whether a definition should be developed at the EU level. Several witnesses were supportive of the principle of developing a common definition, including through the FUSIONS project.[31] Some witnesses questioned the efficacy of 'top down' definitions.[32] It was also put to us that different priorities across Member States point to different approaches to the definition of food waste. Where food waste is generally not disposed of through landfill or energy recovery, a definition is more likely to reflect a focus on prevention, redistribution and potential use as animal feed. Such Member States will be keen to ensure that the use of material represents the optimal sustainable solution. Elsewhere, more waste may tend to be disposed of in landfill, incinerated or sent for energy recovery. A definition might therefore focus on the different treatment methods applicable at that stage of waste.[33] The challenge of attempting equivalence of meaning across the EU in different languages should also not be underestimated.[34]

31. **Food waste is more apparent, and easier to define, towards the end of the supply chain. At the producer level, though, the issue is much more complex, particularly in relation to on-farm losses. We conclude that food grown but not harvested due to adverse weather conditions should not be considered as food waste. On the other hand, food not harvested for other reasons, such as change in demand, should be included within the definition of food waste.**

32. **We conclude that the idea of a universal food waste definition that works across the food supply chain and at different geographical scales defies the complexities of the European food supply chain. We recommend that a more productive approach would be to standardise approaches to defining different material and waste flows at each stage of the food supply chain, including unavoidable waste.**

Monitoring of food waste throughout the supply chain

33. After observing the difficulties of defining food waste, we turned to its monitoring. The range of food waste data types and sources collected at different levels and for different purposes is summarised in Appendix 7. These include: information reported to the EU Statistical Office (EUROSTAT) by Member States; food waste monitoring programmes for both households and other sectors; data submitted voluntarily by businesses under voluntary agreements; and innovations designed to help with monitoring close to sources of waste generation, such as the Unilever mobile phone application for chefs (see Chapter 3, paragraph 88). The Institution of

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30 Q 149, Q 194

31 Q 27, Q 40, Q 51, Q 80, Q 103, Q 113, Q 123, Q 218, Q 252, Q 264, Copa-Cogeca, Defra, Waitrose

32 Q 247, Q 265

33 Q 149, Q 247

34 Q 50, Q 149

Mechanical Engineers (IME) cited other emerging innovative tools such as the websites 'tooskee.com' and 'leanpath.com'.[35]

34. The difficulties relating to food waste definition, and the lack of standard approaches to measurement, impinge on the quality of available data at all levels. At the producer level, it was conceded that pre-farm gate data on food waste are particularly weak. WRAP noted that existing estimates of agricultural food waste in the UK are indicative, and based on a 2004 Environment Agency synthesis of evidence available at that time.[36] The lack of data was related to the difficulty of monitoring losses at this stage of the food supply chain as well as the definitional problem of classifying what is 'food waste' in the field.[37] It was argued that, for this area to develop, more research is needed across the EU, including into the extent to which food wastage may be beneficial to local ecosystem integrity due to its nutritional value when spread on land.[38] Some preliminary work on pre-farm gate losses is currently being conducted in Scotland.[39]

35. It was clear from the evidence that individual hospitality and food sector and retail businesses, by contrast, are in a relatively good position to assess their own food waste when motivated to do so. The caterers, Sodexo and ARAMARK, offered compelling evidence of their efforts in the food service sector to that effect. In the hospitality and food service sector it was noted that, generally, the separation of waste was a helpful way of demonstrating the levels of food waste to employees. Rather than all company waste being put into one bin, food waste would be discarded separately.[40] Similarly, large retailers informed us of efforts within their businesses.[41] According to witnesses, in both the hospitality and food service industry and retailer sectors, voluntary agreements have been instrumental in driving progress on data collection.[42]

36. For food waste arising from smaller businesses, however, which tend to predominate within the hospitality and food service sector, the voluntary disclosure of such statistics is unrealistic. Estimation is then reliant on sampling and surveying techniques. Sodexo told us that the overall estimate for the hospitality and food service sector across Europe, produced by FoodServiceEurope,[43] is likely to be unreliable and based on inconsistent methodologies.[44]

37. We heard that the monitoring of consumer food waste is also a particular challenge. Estimates of total quantities as well as detailed compositional data are needed to inform waste prevention and awareness campaigns.[45] Evidence from WRAP, which has experience of conducting such compositional studies

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35 IME

36 *Review of agricultural waste research and development projects*, Environment Agency, 2014

37 Q 16, Q 67, Q 152, Copa-Cogeca, Defra

38 Feeding the 5,000, Defra

39 Q 196

40 Q 56, ARAMARK

41 Q 212, Q 225

42 Q 25, Q 56, Unilever

43 See http://www.foodserviceeurope.org/

44 Q 52

45 Q 5, Q 110, WRAP

since 2007, suggested that research on consumer food waste is complex to undertake.[46] High quality compositional data is "invaluable in the formation of waste reduction campaigns",[47] yet for the majority of Member States such studies have not been carried out.[48]

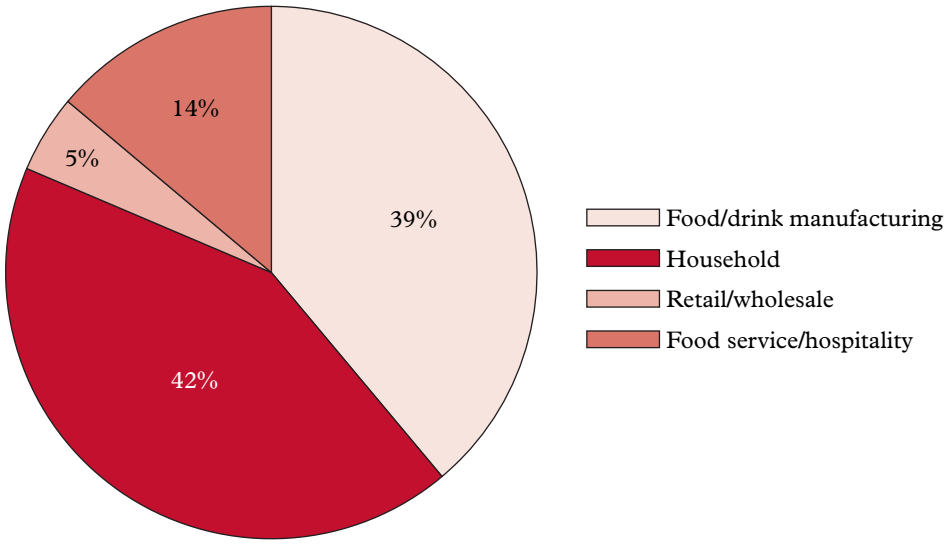
38. **We conclude that food waste is a data-poor area across the main sectors where it arises. In some instances, assessment has been shown to be possible. This is particularly so among larger retailers and food service companies. It is, however, much more difficult to assess the quantity and nature of food waste at the producer, manufacturer and consumer levels and within smaller businesses in particular.**

The current state of EU food waste statistics

39. It is evident from the work carried out for the Commission in 2010,[49] based mainly on 2006 EUROSTAT statistics, that the measurement of food waste across the main food waste generating sectors is incomplete, with a near total absence of waste statistics in some Member States. Furthermore, the Commission's 89 million tonne estimate is based on a significant element of extrapolation for the retail/wholesale and food service/hospitality sectors in particular. The overall estimates suggest that household food waste contributes the highest proportion, with the food and drink manufacturing sector accounting for most of the remainder (see Figure 2).

FIGURE 2

EU-27 food waste arisings, percentage (%) weight by sector[50]



40. The combination of the limited number of detailed research studies conducted within Member States, the uncertainties of estimating food waste from within datasets reported to EUROSTAT that do not specifically relate

46 Q 195

47 Shropshire Council

48 *Preparatory study on food waste across EU 27*, BIO Intelligence Service, a report commissioned by the European Commission, October 2010

49 *Ibid.*

50 *Ibid.*

to food waste fractions[51] and the widespread use of extrapolated factors has resulted in a picture where country-to-country variation is difficult to explain. For example, France manufactures more food and drink than the UK, but significantly less food waste from French manufacturing has been reported according to the 2006 EUROSTAT data.

41. A EUROSTAT project is currently underway that involves voluntary food waste data collection activity among 16 Member States based on 2012 data, to be published in June 2014.[52] This will attempt to test how to 'plug-in' a more detailed breakdown of food waste within the existing reporting requirements of the EU Waste Statistics Regulation.[53] While this is likely to provide a more detailed account of which waste streams contain food waste, it is not designed to quantify total food waste.

42. **In order to boost data availability across the EU, the current Member State reporting requirements must be reformed, so that food waste can be more reliably identified. This requires action on the part of EUROSTAT and Member States in order to reform some of the existing reporting categories that currently conceal food waste estimates.**

Data reporting

43. The evidence suggested that there is considerable room for improvement in data reporting by food and drink manufacturers, retailers and in the food service industry. We heard that an innovative way of doing so would be through the encouragement of open data reporting at the company level, such as the Norwegian[54] ForMat project (see Box 2).[55]

BOX 2

Norwegian ForMat project

The ForMat project is an ongoing collaboration between producers, retailers, research institutions, environmental organisations and the government, to chart and minimise food waste in Norway.

The project began in 2009 through a cooperative effort between supply chain sectors, including Food and Drink Norway, Food and Agriculture Norway, and bodies representing industry, retailers and suppliers. The project is financed by the Norwegian ministries of the Environment and Agriculture, both of which are also represented in the project's steering committee. In 2011, the project received additional support from the ministries of Fisheries and Coastal Affairs, of Trade and Industry, and of Children, Equality and Social Inclusion.

The project has four sub-projects, with a budget of approximately 8.2 million NOK (Norwegian Krone) (approximately €1 million) over its original four-year lifespan:

51 Q 144

52 *EU data collection on food waste*, OECD Food Chain Analysis Network, 4th Meeting, 20-21 June 2013

53 Regulation No 2150/2002

54 Although Norway is not a Member of the EU, this project has been cited as evidence as it provides a useful example.

55 Q 123, Feeding the 5,000

- charting and analysing the volume of food waste in Norway between 2009–13;
- networking along the value chain to reduce the volume of wasted food;
- communication and knowledge transfer of results, ideas and experience relevant to avoiding waste of food in Norway; and
- prevention strategies/tools, including packaging, size of packaging and shelf life.

ForMat's goal is to contribute to a 25% reduction in food waste in Norway by 2015. This corresponds to a value of 5 billion NOK (€650 million), and whilst considered a realistic goal, it requires an attitude shift, better knowledge and better daily routines.[56]

44. Sodexo lent its support to an EU policy on obligatory data reporting.[57] This might build on recently agreed EU provisions regarding the publication of non-financial information by large companies, which set a framework for the publication of environmental data. While food waste data are not explicitly included in that framework, nor are they excluded.[58] The Dutch government preferred an EU voluntary framework.[59] The announcement by the British Retail Consortium (BRC) in late January 2014 that from 2015 all the major UK supermarkets would report their food waste statistics on an annual basis is an indication of a shift towards more open data reporting through a voluntary approach.[60]

45. **Recent developments in the UK and Norway illustrate how voluntary public disclosure and greater openness about food waste arisings can be successfully achieved. Although a compulsory reporting framework for large companies could be feasible, the European Commission should consider ways of facilitating voluntary public disclosure. Recently agreed EU legislation on the disclosure of non-financial information by large companies, including environmental information, offers a possible framework for such voluntary reporting.**

Funding data collection

46. We were warned that monitoring and data collection activities are often resource-intensive. For example, in relation to WRAP's voluntary agreements under the Courtauld Commitment (see Appendix 5) the inquiry was advised "not to underestimate the challenge" of creating systems for collecting, verifying and reporting data collected from signatories.[61]

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56 *Report from the ForMat project 2011 – reducing food waste*, ForMat

57 Q 52

58 Directives 78/660 and 83/349, both of which would be amended under the proposed Directive COM(2013) 207. Informal agreement between the European Parliament and Council on the draft legislation was reached in February 2014.

59 Q 130

60 *A Better Retailing Climate: Driving Resource Efficiency*, BRC, January 2014

61 Defra

47. It was therefore with some concern that we heard that funding from the UK Government to support the work of WRAP had been cut. In November 2013, the Department for Environment, Food and Rural Affairs (Defra) announced a reduction in WRAP's annual funding for delivery work in England from around £25 million to approximately £15 million.[62] WRAP's work on food and drink waste reduction was cut by £3.6 million. The Chief Executive of WRAP admitted that there was a danger of a loss of momentum, a "potential concern" which was acknowledged by the Minister.[63] On the other hand, the Minister expected the support provided by WRAP to have acted as a catalyst for businesses to understand the economic benefits of taking their own action to tackle food waste.[64]

48. **Food waste monitoring and data collection across the supply chain must be effectively resourced across the EU. In the UK, there is a high risk of false economy if the cuts to WRAP's funding to support food waste prevention ultimately lead to resource inefficiency in terms of economic costs to businesses and households, and environmental costs from greenhouse gas emissions and water and energy consumption. We therefore recommend that the UK Government work closely with WRAP to assess the impact of the budget cut on WRAP's ability to contribute to food waste prevention, particularly in the context of its unique ability to work along the whole supply chain.**

Taking action

49. The fact that reliable data are not available has led to a division of opinion as to whether action on food waste should be taken now or postponed until data have improved.[65] The collection and understanding of food waste data was noted as the starting point, with such insights leading to action.[66] As the Food and Drink Federation (FDF) stressed: "a very important part of the food waste debate is to have a sound evidence base on which you can judge future policy".[67] This has been the approach taken by WRAP since 2007, where the building of an evidence base has generally preceded action and has been used to inform programmes of work to deliver food waste reductions in households, the grocery supply chain and, most recently, in the food service and hospitality sector.[68]

50. On the other hand, we heard that there are "no regret" actions[69] that could be taken, and that these could be addressed without the need for food waste definitions and data to be fully developed.[70] Witnesses emphasised that

62 *Review of Defra funding for WRAP (Waste and Resources Action Programme) – Summary report of the review and responses to the opportunity to comment document*, Defra, November 2013

63 Q 205, Q 295

64 Q 295

65 Q 144

66 Q 211

67 Q 28

68 Q 191

69 These are actions with no negative consequences.

70 Q 286

efforts to standardise definitions should not eclipse other priorities in acting on food waste.[71]

51. **A common definition, a coherent set of data and reporting requirements are not prerequisites for action. We consider it self-evident that, in a resource-efficient Europe, all involved throughout the supply chain should be looking to minimise waste of all varieties.**

Targets

52. One method currently used to encourage action is through the setting of a target. We began this chapter by mentioning the Commission's 2011 aspirational target of reducing edible food waste by 50% by 2020. Since then, we understand, France and Germany have adopted a non-binding 50% reduction target by 2025 and 2020 respectively. Other Member States have additionally set their own national targets, such as the non-binding targets in the Netherlands to cut food waste in the food supply chain and households by 20% by 2015,[72] and in Austria by 20% by 2016 (for households only).[73]

53. In the upcoming Communication on Sustainable Food, the Commission is expected to revise its target downwards.[74] Any change in ambition would reflect the different progress made across the EU and the different levels of data available.

54. The lack of a common definition and satisfactory data and monitoring across the EU were the principle reasons mentioned by our witnesses as to why it would not be appropriate at this time to introduce a binding target at the EU level.[75] Having no agreed methodology on the measurement of food waste, including "what constitutes food waste", would make it more difficult to ascertain the progress of Member States.[76] Marks and Spencer observed that most food waste is generated by consumers in the home. Consequently, "while the theory of a target could definitely work, the practice of implementing that and being able to report against it to show that a difference had been made would be really hard".[77]

55. On the other hand, it was considered that an aspirational target would send a clear political signal about the ambition of policy makers in this area, particularly in terms of making EU food waste reduction a high priority.[78] For Sodexo, the importance of such a target was that it "raises a profile" and acts as a focal or reference point, not just for Member States, but also for organisations in allowing them to align business strategies or improvement programmes.[79]

56. One of the few witnesses who did support a binding target, the Anaerobic Digestion and Biogas Association (ADBA), emphasised that it must be

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71 Q 144, Defra

72 Q 123

73 *"Food is precious" – the initiative*, Austrian Ministry of Life

74 Q 163

75 Q 1, Q 49, Q 194, Q 242

76 Q 25, Q 49

77 Q 80

78 Q 39

79 Q 49

evidence-based in that the level of reduction set would need to be realistic.[80] The stated main benefit of a binding approach was that "to a degree it gets around politics" because any incoming Member State government could easily ignore an aspirational target, but could not ignore a binding target.[81] We understand that responses to the Commission's consultation on sustainable food,[82] carried out in 2013, found that consumer groups, non-governmental organisations (NGOs) and some national governments were far more supportive of such an approach than food and drink sector trade bodies, retailers and manufacturers.

57. **We conclude that a binding target requires adequate baseline information, which is simply not available across the EU at present. Given the difficulties relating to a common definition across the supply chain, we recommend that consideration be given to the development of aspirational targets for each level of the supply chain. We believe that aspirational targets set at the EU level could help focus Member State attention and encourage efforts to prevent food waste throughout the supply chain.**

80 QQ 252-253

81 Q 252

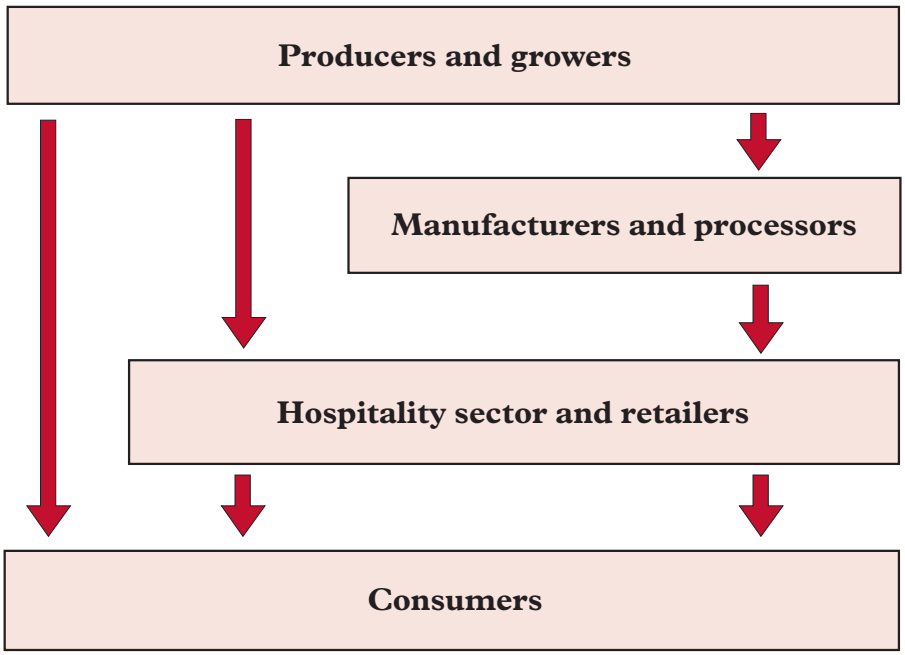
82 *Consultation: Sustainability of the Food System*, European Commission

CHAPTER 3: FOOD WASTE FROM FARM TO FORK

58. As highlighted in the previous chapter, there is an urgent need for progress to tackle the issue of food waste, turning rhetoric into action. During the inquiry, we explored the supply chain and its individual components to understand where action needs to be taken to tackle such waste most effectively. The significance of considering the supply chain as a whole is that it has the potential to capture the interactions that occur between different stages (see Figure 3). In this chapter, we first consider food waste by consumers in the home, the highest-profile component of the supply chain, before moving on to examine other stages of the supply chain and cooperation between them.

FIGURE 3

Interactions throughout the supply chain



The diagram above shows the nature of the food and drink supply chain from the original producer through to manufacturers, processors, retailers, food service and hospitality (pubs, restaurants, hotels and caterers) and, finally, the consumer. It demonstrates that the supply chain involves a multitude of different relationships, depending on the product and the ultimate consumer. The diagram has intentionally simplified the supply chain. Within that structure, it is the case that a manufactured product, such as a ready meal, will contain a wide variety of ingredients, each from a different source.

The role of the consumer in the home

59. A common theme throughout the inquiry was a focus on the role of the consumer, at the end of the supply chain, in cutting food waste.[83] The

[83] Q 110, Q 123

emphasis on consumer actions is also apparent in the European Commission's own study of food waste across Europe.[84]

60. In the Netherlands, this work is being led by the Netherlands Nutrition Centre Foundation (NNCF), which provides information and encourages consumers to take the right decisions.[85] The NNCF aims to achieve this by raising awareness amongst consumers, interacting with them and providing consumers with practical tools, such as a 'Smart Cooking' application for mobile phones. This provides purchasing, cooking and storage advice in addition to healthy customised recipes and daily suggestions.[86]

61. As part of its work to raise awareness, the NNCF takes part in a variety of campaigns, such as 'Damn Food Waste' in Amsterdam in June 2013, where lunch was made for 5,000 people using food that would have otherwise been wasted.[87] At the event, the NNCF also established a life-sized interactive "big fridge", which the public could walk into and discuss food waste, including the problems they faced and tips on what could be done.[88] In 2009 it also launched radio and television campaigns to highlight economic incentives for consumers, suggesting that individuals could save €50 a year, or €150 a year for a family.[89] Other examples included educating consumers on improved fridge storage, a greater use of shopping lists and meal planning.[90]

62. In terms of interaction with consumers, we learnt of the NNCF's newest campaign, 'Why 50 kilos?', which uses social media to create awareness about the 50 kilograms of avoidable 'good' food wasted by each person every year. The NNCF also has a journalist who posts media blogs twice a week regarding their experience with food waste, which is used to inspire other people when dealing with food waste, including opportunities on what to do with it.[91]

63. In the UK, meanwhile, work focusing on the role of the consumer is being led by WRAP. Several witnesses made reference to WRAP's 'Love Food Hate Waste' (LFHW) campaign, including how funding had been used locally (see Box 3).[92] The UK Government provided a helpful summary of the campaign's impact:

> "WRAP's partly Government-funded Love Food Hate Waste (LFHW) campaign helps consumers to make informed choices on reducing food waste. LFHW has established a respected, credible and effective brand, materials and messages, working in partnership with a broad range of organisations (e.g. local councils, retailers and the food supply chain). Through LFHW, consumers have been helped to save money and

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84 *Preparatory study on food waste across EU 27*, BIO Intelligence Service, a report commissioned by the European Commission, October 2010

85 Q 85

86 *Come have lunch on Damn Food Waste*, NNCF, 14 June 2013

87 *Ibid.*

88 *Ibid.*

89 Q 90

90 Q 94

91 Q 95

92 Q 55, Q 199, Defra, NLWA, Packaging Federation, Shropshire Council, WRAP

waste less food by a combination of innovations such as resealable salad bags, meal planning, leftovers recipe ideas, and smaller size loaves of bread."[93]

BOX 3

North London 'Love Food Hate Waste' project

The North London Waste Authority (NLWA) explained how it had used LFHW funding to deliver a 10-month food waste reduction campaign in the local area. This included, among other activities, community kitchen workshops, information stalls in libraries and live cookery demonstrations. Promotional items issued included recipe cards, tea towels and spaghetti measures. It was estimated that, by the end of the campaign, 3,787 people had been advised directly and 61,000 people had been exposed to the campaign.[94]

64. The extent to which consumers are realistically able to take further action within the constraints of current lifestyles was, however, questioned by some witnesses. WRAP, for example, acknowledged that lifestyles today are more chaotic, stating that the debate "has to be about recognising the way people lead their lives and helping them to do as much as they can within the context in which they live". When pressed, WRAP agreed that one must be realistic when considering the role of the consumer, and noted that a significant degree of "common sense" applied to the debate.[95] Copa-Cogeca stated that food waste in industrialised societies is more closely linked to "changes in family structure or lifestyle".[96] The NLWA argued that contributing factors to food waste include lack of time and lifestyle, such as buying ingredients but eating out instead.[97]

65. Innovation may, over time, help consumers to reduce food waste further. We heard how Wageningen University in the Netherlands is currently working with the Pasteur project on developing an innovative microchip that would monitor the quality of perishable food from farm to fridge. A microchip is placed on a batch of fruits, vegetables or meat, with the first prototypes containing sensors to measure various environmental conditions, such as temperature, humidity, acidity, oxygen content and ethylene content. This information, combined with information about transport and storage, provides details about the state the fresh produce is in, and the likely quality in the future. Although it is not possible to mass produce this microchip at present, it is expected that the technology will become economically viable within a few years.[98] Scientists from Peking University in Beijing have reportedly developed a similar technology, with food label 'tags' that can tell whether food is "going off in real time". These tags use metallic nanorods

93 Defra

94 NLWA

95 Q 207

96 Copa-Cogeca

97 NLWA

98 *Food waste reduction thanks to chip*, Wageningen University, 17 January 2013

that degrade slowly in line with the environment in which food is stored, changing colour from green to red as the product deteriorates.[99]

66. **We agree that consumers have an important role to play in reducing food waste. While increasingly unpredictable lifestyles create challenges for food waste prevention and reduction in the home, these are not insurmountable. Rather, efforts to help consumers to tackle food waste must be made within the context of those challenges. The awareness-raising work carried out in a number of Member States has rightly put emphasis on enabling consumers to find solutions to food waste in the home. Tools that can be used include simple and practical ideas for recipes, but extend also to innovations such as the Dutch 'Smart Cooking' mobile phone application and the innovative microchip and food label 'tags' that can monitor the actual state of food.**

Retailers and consumers

67. Consumers are heavily influenced by other parts of the supply chain, particularly the retail sector.[100] According to WRAP, retailers have "a huge role to play".[101] We heard that it can be in the economic interest of retailers to assist consumers in this way as although consumers may purchase less food, they may subsequently upgrade their purchases to higher value products.[102]

68. Retailer actions can pass food waste on to the consumer through incentives and promotions such as 'buy one, get one free' (BOGOF), which encourage consumers to purchase in large volumes.[103] As explained by Professor Benton, consumers have a psychological, "reflexive" response, in that although they may not have the storage space or need for the extra food, they will buy it because they feel they are getting a bargain.[104] In Tesco, for example, it was discovered that two-for-ones on bagged salad were creating a high level of food waste, and so the supermarket decided to discontinue such offers. WRAP suggested that the amount of food waste caused by promotions such as BOGOF depended on the product purchased.[105] In addition to incentives and promotions, some highlighted the need to sell food in a variety of packaging sizes in order to ensure that consumers are not forced to purchase a higher volume of food than they need.[106]

69. **It is clear that retailers must assume a far greater responsibility for the prevention of food waste in the home. Retailers must ensure that incentives and promotions offered to consumers do not transfer waste from the store to the household.**

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99 *Smart tags spell the end for sell-by dates*, The Times, 18 March 2014

100 Q 62

101 Q 208

102 Q 2, FDF, WRAP

103 Q 236, IME, NLWA

104 Q 288

105 Q 190

106 Q 288, Shropshire Council

70. It was suggested that there is a need for clarification, and possible revision, of date labelling requirements, and a need for explanation of what is meant by such dates.[107] Research by the NNCF found that only 37% of consumers knew the differences between 'best before' and 'use by' dates on food packaging (see Box 4), with only 58% checking the product after the expiry date before throwing it away.[108] WRAP considered that progress, at least in the UK, had been made in improving public understanding. Nevertheless, there was still more work to do and "retailers have a huge part to play in that".[109]

BOX 4

'Best before', 'use by' and 'sell by' dates

The sale of food beyond its 'best before' date is not illegal, although the quality of the product would not be expected to be the same as prior to expiry of the 'best before' date.

A 'use by' date should be applied to highly perishable products that are likely to constitute an immediate danger to human health after a short period of time. The food is deemed unsafe after the 'use by' date and it is illegal to distribute it or offer it for sale.[110]

The use of 'sell-by' dates has reduced significantly. Such dates are used for commercial stock control reasons, rather than for consumer guidance.[111]

71. The UK Government confirmed that, working with industry, they are making a lot of progress in terms of how to communicate issues relating to date labelling. They plan to publish more advanced guidance but could not give a timetable.[112]

72. **We conclude that date labelling on foods remains confusing to consumers. Retailers have a key role to play in ensuring that consumers understand dates and are not misled. We therefore recommend urgent publication of the advanced guidance to which the UK Government referred.**

73. Another area in which retailers could assist consumers was that of providing advice on the correct storage of food.[113] Indeed, information on "any special storage conditions" is a requirement of EU legislation.[114] Marks and Spencer acknowledged that additional storage information could be provided but that available space on packaging was sometimes an issue.[115] The BRC confirmed that work was underway within the retail sector to standardise storage information, particularly around freezing.[116]

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107 QQ 36-37, Q 123, Q 165, Q 180, Q 254, ARAMARK, Copa-Cogeca, FDF

108 Q 87

109 Q 206

110 Regulation No 1169/2011, BRC supplementary

111 Q 37, BRC supplementary

112 Q 298

113 Q 208

114 Defra, Regulation No 1169/2011

115 Q 84

116 BRC supplementary

74. The provision of information on storage was closely related to developing greater understanding of the importance of packaging in protecting food. It was explained to us that packaging can have a positive role in preventing food waste by extending the shelf life of food and protecting the product from damage.[117] We heard, on the other hand, that a high proportion of consumers are unaware of the importance of food packaging to the preservation of food.[118] Finally, we were told that retailers could help consumers by ensuring that, where appropriate, food is packaged so that it could be resealed.[119]

75. **We conclude that few consumers are aware that packaging can be crucial for the durability of food. Retailers have a responsibility to communicate the benefits of packaging and information about how food should be stored to avoid premature deterioration and unnecessary food waste.**

Retailers and producers

76. The inquiry heard that retail decisions can lead to wastage at producer level, due to a range of interlinked factors including: contractual requirements; product standards; and poor demand forecasting.

77. In terms of contractual arrangements, witnesses noted the high level of control the retail sector has over the food sector generally and over producers in particular,[120] and the potential for contracts to create waste.[121] As insurance against poor weather conditions, producers may overplant.[122] The NGO, Feeding the 5,000, noted that farmers often produce food exclusively for a specific supermarket, and so if an order is cancelled at the last minute, it is the farmer who bears the cost of the food waste.[123] Further to this, witnesses argued that long-term contracts between retailers and producers should be encouraged, as they establish a more frequent or better understood ordering pattern. According to Sodexo, this encourages confidence amongst producers, and can contribute to preventing both overproduction and over-ordering.[124] In the UK, the new Groceries Code Adjudicator (GCA) is designed to monitor the functioning of the groceries market, including contractual arrangements (see paragraphs 98–102).

78. In identifying markets for their products, producers must work within the restrictions of legislative and cosmetic standards. EU marketing standards are explored in more detail in Chapter 4. Retailers and manufacturers may impose additional cosmetic standards relating to weight, size and appearance. These can result in significant food waste pre-farm gate if crops are rejected because of their appearance or shape.[125] Witnesses representing producers

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117 Q 1, Q 73, Q 83, Q 146, Q 165, FDF, INCPEN, Packaging Federation, WRAP

118 Q 1, Q 167

119 Q 208

120 Q 176, IME

121 Q 120

122 Q 287, NFU

123 Q 45

124 Q 59

125 Q 16, Q 31, Q 172, IME, NFU

highlighted that it was often difficult to find markets for produce that did not meet retailers' standards and that much depended on prevailing market conditions. Examples were, however, given by witnesses where food manufacturing provided alternative markets for some products, such as their use in soups.[126] Certain crop types were more susceptible to remaining unharvested, depending on how stringent the market specifications were. One example provided by the National Farmers' Union (NFU) was that retailers demanded that Gala apples had to have a 50% red colour, as a result of which 20% of the crop was often wasted. The rejected crop could not even go into the juice market because the prices were so low.[127]

79. A number of witnesses argued that cosmetic standards are unnecessary.[128] Feeding the 5,000, for example, stated that cosmetic standards for fruit and vegetables in the retail sector are "indefensible", highlighting that between 20–40% of these crops in UK farms are "never harvested" as they do not comply with the strict retail specifications.[129] The World Wide Fund for Nature (WWF UK) emphasised that food should not be rejected by retailers "for cosmetic reasons" as the burden is put on the farmer who must then find a new market for the food. It argued that retailers need to take responsibility "to utilise that food if it is being grown".[130]

80. Whilst the product standards applied by retailers to fresh fruit and vegetables are in a few cases a result of mandatory EU standards (see Chapter 4, paragraph 113), the dominant reason given by retailers was because of consumer preference.[131] Tesco argued that customers "naturally select" and "always pick the cream of the crop first", meaning that the rest will be left to waste. It was claimed that consumers will always go for the food that cosmetically looks better, and that adding more produce which does not meet these standards will actually "drive waste".[132] As Professor Godfray noted in one example, "Consumers themselves are still reluctant to buy misshapen cucumbers."[133]

81. That argument was, however, queried by others, citing the positive public response to the 'value ranges' of food recently introduced in supermarkets, which provide an outlet for less attractive food.[134] One witness commented that "it is clear that if you put a straight carrot next to a wonky one, the consumer used to seeing perfect produce will not go for the wonky one, but there are a lot of creative ways that retailers can market this produce", such as the use of value ranges.[135] Sustain argued that consumer perceptions and behaviour towards cosmetic standards have been shaped and, by implication, "can be reshaped".[136] This was corroborated by a recent public opinion poll,

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126 Q 6, Q 29, Q 31, Sodexo supplementary

127 Q 16

128 Q 44, Q 67

129 Feeding the 5,000

130 Q 44

131 Q 29, Q 67, Q 213

132 Q 213

133 Q 282

134 Q 29, Q 43, Q 213, Defra, NFU

135 Q 43

136 Q 67

which found that more than 80% of British shoppers would be willing to buy fruit and vegetables which are not perfect in shape or colour.[137] Cultural differences across Member States may apply in terms of attitude towards fruit and vegetables. Tesco, for example, sells a higher amount of "supplier seconds" in its central European stores.[138]

82. A method for reducing food waste between the producer and retailer was that of whole-crop purchases. The retailer would purchase the entire crop, but use it for a variety of purposes, depending on the quality of the crop. As one example, the BRC explained how carrots might be used. A retailer will buy virtually the whole crop of carrots and put the highest graded carrots in bags that would be purchased for preparation at home. At the next level down, carrots might be chopped into batons and used as prepared vegetables. Finally, the leftovers could be used for soups, purées or ready meals.[139] The UK Government further supported this approach and pointed to a case study which suggested that adopting this method for potatoes improved crop use by over 20%.[140]

83. A variant on whole-crop purchasing was that of guaranteeing fixed percentages for orders. Using grapes as an example, Tesco has been running a trial whereby it guarantees to buy a fixed percentage of an order, regardless of changes in demand. Whereas previously a retailer might have cancelled 100% of an order, it might now commit to taking at least 70%. This reduces food waste in two ways. First, the producer is not left with a large amount of product for which they have to find a secondary market. Second, by guaranteeing the order Tesco can take it straight from the farm to its own distribution centres more quickly, thus bypassing the supplier's storage facilities and extending the product's shelf life at the retail and consumer stages.[141]

84. In tackling waste at the producer level, retailers could improve forecasting, be this for the weather or for consumer demand. With better forecasting, it was argued, retailers could go back to the producer in advance so that they could flex their supply.[142]

85. **It is clear that actions by retailers, such as the cancellation of orders of food that has already been grown, leads to food waste earlier in the food supply chain. We recommend a renewed effort by businesses to promote cooperation and shared financial responsibility. This effort should, amongst others, include: careful consideration of contractual requirements in the sector, including much wider use of long-term contracts and ones where the relationship between different ends of the supply chain does not encourage overproduction; the encouragement of whole-crop purchasing; and improvements to forecasting.**

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137 *Most shoppers would buy 'ugly' fruit and veg*, IME, 26 February 2013

138 Q 213

139 Q 29

140 Q 6

141 Q 214

142 Q 33, Q 287

The hospitality and food service sector

86. Food is consumed both at home and outside, in restaurants, bars and canteens. In the UK, WRAP's Hospitality and Food Service Agreement (see Appendix 5) aims to cut food and associated packaging waste in that sector by 5%, which is the equivalent of approximately 100 million meals, and to increase the overall rate of food and packaging waste that is being recycled, sent to anaerobic digestion (AD) (see Chapter 5, Box 8) or composted to 70%.[143] The size of businesses in the food service and hospitality sector presents distinct challenges to those faced by the retail sector. While the sector includes large multinational restaurant and catering companies, it is composed largely of small businesses, such as independent restaurants and pubs.[144]

87. In this sector, food is wasted through a combination of kitchen wastage and plate waste by consumers. Research undertaken by WRAP suggests that consumers who waste food away from home don't feel a sense of ownership or responsibility about the food they leave and the amount of food they are given is considered to be out of their control.[145] Portion size is, therefore, a significant challenge for the industry. Neil Forbes, an independent restaurant owner, explained that his restaurant monitors amounts of food returned to the kitchen and responds by altering portion size.[146] Restaurants should also, it was argued, encourage consumers to take surplus food home with them in a "doggy bag" for later consumption, a practice which is more culturally acceptable in the US.[147]

88. In 2011, Unilever—in association with the Sustainable Restaurant Association (SRA)[148]—launched the 'United Against Waste toolkit', which was designed to assist the food service and hospitality industry reduce food waste. The toolkit aims to help businesses by providing information about food preparation and plate presentation, including portion size, and monitoring what consumers leave on their plate.[149] Education and training were seen as key to achieving change in the sector.[150] The restaurant Nando's, for example, highlighted their attempts to incorporate food waste management training into the inductions of new staff.[151] We also heard from the Dutch Sustainable Food Alliance (SFA) about a programme in the Netherlands, whereby professionals in the sector are trained to be able to forecast demand more effectively.[152] WRAP confirmed that it is working with the sector to "try to help them understand what works on a menu, how to

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[143] *Leading hospitality and food service companies sign up to waste agreement*, WRAP, 27 June 2012

[144] Q 198

[145] WRAP

[146] Q 257

[147] Q 262

[148] The SRA helps restaurants source food more sustainably, manage resources more efficiently and work more closely with their community. Restaurants are rewarded with a sustainability rating, which can assist diners in their choice of restaurants.

[149] *Unilever Food Solutions: United Against Waste toolkit*, WRAP

[150] Q 256, Q 264

[151] Q 261

[152] Q 165

design menus to reduce waste and to give the appropriate range of portion sizes".[153]

89. Nando's acknowledged the importance of considering the impact of its activities elsewhere in the supply chain, including collective engagement in discussions with their suppliers.[154] Ultimately, though, large retailers hold such power over the market that the ability of smaller operators to influence the supply chain is "limited", a view that was shared by both the SRA and Dutch food banks.[155] The exception to this is where local supply chains and small suppliers are used. By working with local and small producers, retailers can react immediately to surplus supplies, whereas it becomes a much more difficult situation when larger retailers are included and operate at a national scale.[156]

Improving supply chain cooperation

90. A common recognition throughout the evidence was that, while efforts made at each individual stage of the supply chain are important, there are strong links between these stages and it is critical to consider the supply chain as a whole. There was general agreement that cooperation along the supply chain is essential and that this would assist with food waste prevention.[157]

91. Witnesses argued that there is currently a lack of an integrated approach across the supply chain.[158] Whilst more cooperation and integration throughout the supply chain is occurring, there needs to be more "rigidity and rigour", particularly at the earlier stages of the supply chain.[159] Such a view was echoed by FDF and Keep Britain Tidy (KBT), who argued that a whole supply chain approach is vital for achieving "real positive good", particularly in identifying where food losses are occurring.[160] Pointing to the Courtauld Commitment (see Appendix 5) and existing efforts to work up and down the supply chain, KBT noted that this has already produced positive results. It stressed, however, that it is more difficult for certain sectors and organisations, such as NGOs, to work across the entire food chain due to their more limited resources.[161]

92. An example of how such an approach might help applies to food rejected by retailers, but which might potentially be used by food manufacturers. For manufacturers "the appearance of the raw material is not a primary consideration", with 'imperfect' food being used instead for products such as ready meals and soups.[162] On the other hand, there were some instances where manufacturers required products of equally high specification to those demanded by retailers in order that the product sizes are aligned to machines

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153 Q 199

154 Q 259

155 Q 176, Q 265

156 QQ 264-265

157 Q 27, Q 32, Q 165, Q 192, Q 196, Q 202, ARAMARK, Copa-Cogeca, NFU, Sodexo

158 Q 66

159 Q 70

160 *Ibid.*, Q 27

161 Q 70

162 Q 31

used to process them.[163] The supply chain is, therefore, highly complex, pointing to the need for sophisticated communication.

93. The ease with which supply chain stages can work together is also influenced by differences between retailers in their relationship with their supply chains. The UK retailer Morrisons explained its integrated supply chain model, which meant they were able to "drive efficiency through flexibility".[164] This is achieved by purchasing direct from primary meat and produce farmers and suppliers in the UK, utilising more of what they buy in their own abattoirs or produce packhouses, buying whole animals and, where practical, processing whole crops. The combined effect of this is that Morrisons is better able to manage and reduce associated food waste than would otherwise be the case if it had less control over the supply chain. In owning its own packhouses, Morrisons has greater scope to use different parts of a crop by packaging them itself in a different way. Smaller potatoes, for example, can become 'baby roasters' or sold as a value line.[165]

94. During our visit to the Netherlands, the inquiry heard how supply chain partners collaborate through the SFA. The SFA is composed of five umbrella organisations representing the various links of the Dutch food supply chain. Although initially brought together by the Dutch government, the funding was withdrawn and so the partners now cooperate on a voluntary basis. The aim of the SFA is to consider the Dutch food supply chain in its entirety, and it has a set common agenda with the Dutch government: to take responsibility as private actors in the supply chain and work together with the government. Presently, the SFA has four working groups, one of which includes food waste. The work of the SFA includes sharing best practice and tools across the supply chain, whilst also initiating research. Standards are set collectively within the private sector in a precompetitive manner, with the government ensuring that there is a level playing field and certain minimum standards. Food waste prevention and reduction is considered a top priority, and the SFA emphasised the importance of a commonality—particularly as regards language used throughout the entire supply chain. This translated to "a common approach, a common definition and a common framework".[166] The importance of such commonality was also highlighted by the Dutch government.[167] Examples of the work the SFA conducts included investigating waste "hotspots", pilot projects and contributing to harmonised monitoring methodologies.[168] Several witnesses made reference to the work of the SFA, noting the high degree of collaborative work.[169]

95. WRAP's Product Sustainability Forum (see Appendix 5) provided another tangible example of whole supply chain working, cited by a number of witnesses.[170] 'Pathfinder' projects are currently underway. Specifically addressed at product categories that have the largest potential environmental

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163 Q 18

164 Morrisons

165 *Ibid.*

166 Q 165

167 Q 123

168 Q 165

169 Q 96, Q 123, Q 150

170 Q 7, Q 32, Q 192, Q 259, FDF, WRAP supplementary

impacts, these look from 'farm to fork' at waste in the supply chain and the results of such studies are then shared across the sector. One such example in the potato sector is set out in Box 5. In relation to its work on the whole supply chain approach WRAP commented:

> "[…] there are some great examples where we are starting to see some of those supply chains sitting down and thinking about this. We now have a Pathfinder[171] project […] looking at the beef supply chain, trying to work out where the hotspots are in that supply chain and getting the whole supply chain to sit down together and talk about how to address that. It would not happen naturally".[172]

BOX 5

WRAP Product Sustainability Forum Pathfinder project: resource efficiency in the potato supply chain

This project is a farm to fork assessment of the potential to reduce waste and improve resource efficiency in the potato supply chain. Detailed data on resource inputs and losses across the value chain have been compiled internally by the Co-operative Food and Farms, with support from WRAP. These have been translated into costs at each stage and sub-stage (e.g. grading, storage, washing, sorting), to demonstrate the financial case for intervention and inform the cost/benefit of taking action to reduce losses and optimise inputs.

A workshop with the Co-operative Food and Farms has been held, to review initial findings, discuss root causes and potential solutions. This included the potato buyer, packhouse manager, lead agronomist and other representatives from policy and commercial teams. A number of potential solutions to mitigate losses have been discussed. The follow-up project currently underway is working on an Action Plan to trial prioritised solutions.[173]

96. There is limited cooperation among food supply chain stakeholders at the EU level. One example of such cooperation is the Retail Forum in the context of the Retailers' Environment Action Programme. The Retail Forum was established by the Commission in 2009, and is a multi-stakeholder platform intended to exchange "best practices on sustainability in the European retail sector". This platform was created in the belief that retailers can play a significant role in "provoking positive changes in patterns of consumer demand through their partnerships with suppliers and through their daily contact with European consumers".[174]

97. **The supply chain cooperation model observed in the Netherlands is, we conclude, helpful and self-sustaining. It is one that could be promoted at the national and European levels, along with the best practice from WRAP's whole supply chain work under the Product Sustainability Forum. We recommend that the European Commission considers bringing together EU level bodies representing**

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171 *Pathfinder projects*, WRAP

172 Q 192

173 *Pathfinder projects*, WRAP

174 *About the Retail Forum*, European Commission

the various parts of the supply chain, building on existing mechanisms. Consumers must be represented in such work.

The Groceries Code Adjudicator

98. The inquiry took evidence about the new GCA in the UK (see Box 6), and particularly how the monitoring and enforcement activities of the GCA might include supply chain abuses that lead to food waste.

BOX 6

UK Groceries Code Adjudicator

The GCA is the UK's first independent adjudicator to oversee the relationship between supermarkets and their direct suppliers. It was established by the Groceries Code Adjudicator Act, which came into force in June 2013.

The GCA ensures that large supermarkets treat their direct suppliers lawfully and fairly by upholding and enforcing the Groceries Supply Code of Practice (GSCOP). The GSCOP is a legally binding set of rules imposed on those supermarkets with a UK groceries turnover of over £1 billion.

If a supplier is concerned that there has been a breach of the GSCOP, it can complain to the GCA. The GCA can receive information about potential breaches of the GSCOP from anyone, and any complaints received are kept strictly confidential.

In enforcing the GSCOP, the GCA has the power to:

- investigate confidential complaints from any source about how supermarkets treat their suppliers;
- make recommendations to retailers if a complaint is upheld;
- require retailers to publish details of a breach of the GSCOP;
- in the most serious cases, impose a fine on the retailer; and
- arbitrate disputes between retailers and suppliers.[175]

99. The GCA confirmed that whilst the only part of the GSCOP that relates to food waste is poor demand forecasting, this has the potential to make a significant reduction in food waste (see paragraph 77).[176] At present, retailers can impose penalty fines on suppliers for not delivering against an order that may be substantially higher than a forecast. This can be a penalty of £10 a case, which in some instances is more than the value of the product. If the GCA can ensure that the supermarket accepts some of the financial responsibility, this could act as an incentive to improve retail forecasting and at the same time reduce overproduction at the producer level. The GCA argued that the current relationship between retailer and producer is "causing overproduction", and that, "it is the forecaster who drives

175 *What we do*, Groceries Code Adjudicator

176 Q 272

production. If the retailer can get good at forecasting, that will help the supplier enormously".[177]

100. Some witnesses considered that there would be a case for the GSCOP model to be extended across the EU.[178] This argument was particularly made in the context of the transnational nature of the grocery supply chain. WWF UK, for example, noted that a European level model could create a "slightly more level playing field", especially as multiple European retailers might use the same supplier from another country.[179] In considering a pan-European body, the inquiry heard from the GCA that the Commission favoured a "common code" that would be supported by individual Member State regulation.[180] This approach was supported by the GCA, claiming Member State regulation would be easier than introducing an "EU adjudicator". This issue is currently under review at the EU level in the context of the Retail Action Plan.

101. The GCA referred to the current European voluntary code. This was launched in September 2013, mirroring the GSCOP but also going further in scope to include indirect[181] suppliers into the retail sector.[182] Although it currently lacks the teeth of the GSCOP model, the GCA stated that "There are moves afoot in Norway, Portugal, Ireland and Holland to do something similar to what we have, so there is a big push" to get some regulation to support it.[183]

102. **We support the development of a Grocery Supply Code of Practice across the EU, to be regulated by Member States and monitored by the European Commission. The development of the approach in the UK should feed into policy development at European level, where extension of the Code beyond direct relationships in the supply chain is welcome.**

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177 Q 275

178 Q 18, Feeding the 5,000, NFU

179 Q 44

180 Q 272

181 An indirect supply relationship involves an intermediary, such as a processor or manufacturer, between the producer and the retailer. This is distinct to a direct supply relationship between a producer and a retailer.

182 Q 271

183 *Ibid.*

CHAPTER 4: EU REGULATION

103. The ability of the food supply chain to prevent and reduce food waste is affected by the regulatory framework in which it sits. We heard examples of the unintended, or perceived, impact on food waste of various EU regulations across different policy areas. We explore these in this chapter, divided into a number of different policy areas, including: the influence of the CAP; policies that may help or hinder surplus food being redistributed or used in animal feed; the ban on the discard of fish; food hygiene regulations; food labelling; and packaging issues. EU waste policy is relevant but, aside from packaging waste, is covered in Chapter 5.

The impact of EU regulation on food waste

104. In the light of the identified impacts on food waste of wider EU policies, we enquired as to whether the European Commission systematically assesses the impact on food waste of its policies. No information was identifiable on such an approach by the Commission. The inquiry heard from the Dutch government that there is certainly a lack of coordination across the Commission on the matter. Whilst policy makers were considered to be taking the topic of food waste prevention seriously, there is an issue surrounding the division of responsibilities.[184]

105. The "Every Crumb Counts" Joint Food Wastage Declaration by stakeholders across the food supply chain argued that Commission Impact Assessments on proposals across policy areas should take food waste into account. In support of this, the FDF cited a Commission proposal to include a mandatory date of catch or date of landing on fisheries products. This was eventually removed in the course of negotiations as there was little link between such a date and the condition in which the product would eventually reach the consumer, but it may have led to consumer confusion and to the discard of a food product at a date when the product remained safe for consumption.[185]

106. A move towards ensuring that EU law is fit for purpose was made in late 2013, when the Commission published its Regulatory Fitness and Performance (REFIT) Programme.[186] The first stages of that Programme included a fitness check of the food chain, which concluded that the EU's General Food Law[187] should be subject to a full evaluation under the REFIT exercise.[188]

107. **We detect no systematic attempt across the European Commission to assess the impact on food waste of its policies. We therefore recommend the establishment of a cross-Departmental working group on the issue. We welcome the recommendation that an**

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[184] Q 115

[185] Q 36

[186] COM(2013) 685

[187] Regulation No 178/2002: The aim of the General Food Law Regulation is to provide a framework to ensure a coherent approach in the development of food legislation. It lays down definitions, principles and obligations covering all stages of food/feed production and distribution.

[188] SWD(2013) 516

evaluation of the General Food Law should form part of the Commission's Regulatory Fitness and Performance Programme. We recommend that its remit extend to consider the impact on food waste prevention of EU legislation beyond that Law.

Common Agricultural Policy

108. Food waste prevention is not an explicit objective of the CAP, and did not feature in recent negotiations to reform the CAP.[189] It was noted, though, that the indirect effect of improving agricultural competitiveness and productivity should be to reduce food waste.[190]

109. We have previously considered the issue of boosting the competitiveness of EU agriculture through innovation.[191] A critical issue is ensuring that information is available to farmers, primarily through Farm Advice Systems. Similarly important is the exchange of information between researchers, manufacturers, retailers and producers, systems to support which have been identified in the reformed CAP. These include the new European Innovation Partnership (EIP) on Sustainable and Productive Agriculture.[192]

110. The UK Government have confirmed that they expect to provide support for UK engagement in the EIP.[193] In evidence to us, they also pointed to the launch of the UK's Agri-Tech Strategy, which includes an objective to avoid surplus production.[194]

111. Certain other aspects of the CAP could help to promote food waste prevention. One such example was rural development funding. According to the NFU, rural development programmes could support investment in agricultural production techniques which would improve crop standards, and in the development of new markets for lower value products. By improving crop standards, less food might be rejected by retailers and subsequently wasted, whilst new markets for lower value food could have a similar effect, with alternative routes for producers.[195]

112. Another example was the common agricultural market element of the CAP. This was most recently revised in December 2013 in the context of CAP reform.[196] This provides for a fruit and vegetable scheme including funding to support on-farm investment in relevant technology, such as storage. It requires Producer Organisations (POs)[197] to be in place, which is not a norm in the UK. A recent Report from the Commission on operation of the scheme highlighted problems across the EU in terms of access to POs and,

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189 Q 12

190 Q 22

191 European Union Committee, *Innovation in EU Agriculture* (19th Report, Session 2010-12, HL Paper 171).

192 *European Innovation Partnership 'Agricultural Productivity and Sustainability'*, European Commission. This EIP, and four others, aim to bring together all relevant interested parties at EU, national and regional levels in order to boost research efforts, coordinate investments and facilitate access to new innovations.

193 *Communication from the Commission on the European Innovation Partnership 'Agricultural Productivity and Sustainability'*, letter from George Eustice MP to Lord Boswell of Aynho, 29 January 2014

194 Q 9

195 NFU

196 Regulation No 1308/2013

197 Groups of producers that work together voluntarily to organise agricultural production in a way that can meet market demand more effectively than producers are able to achieve on their own.

therefore, to the scheme.[198] The UK Government confirmed that they were working with the Commission and some other Member States to determine how the scheme might be operated in a simpler manner.[199]

113. The common agricultural market Regulation also sets the framework for the continuation of marketing standards for fruit and vegetables.[200] These standards are designed to facilitate the trade of agricultural goods through the EU. Most fruit and vegetables are subject to general marketing standards. Presently, 10 products[201] are subject to more stringent standards, which set different provisions for separate classes of products: Extra Class, Class I and Class II. Defra considered the standards to be helpful.[202] There was some call for further relaxation of them, or at least reconsideration as to their impact on food waste.[203] KBT argued that, where quality standards are set, they should be set for the right reasons.[204]

114. **The Common Agricultural Policy (CAP) does not aim explicitly to prevent food waste. Nevertheless, a move towards a more competitive agricultural industry, as is the intention of the reformed CAP, should have the effect of reducing waste on-farm. The CAP offers methods to accelerate that progress. In implementing the CAP, we recommend that the UK Government consider on-farm food waste prevention as an integral part of the policy, given the clear economic benefits of doing so. Such consideration should include: the fruit and vegetable scheme; the provision of appropriate farm advice; access to the European Innovation Partnership; and rural development funding.**

115. **We recommend that the European Commission prepares guidance on the use of CAP instruments to support on-farm food waste prevention, particularly through the Rural Development Regulation and the Common Organisation of the Markets Regulation.**

116. **We consider that an assessment of the impact on food waste of marketing standards for fresh fruit and vegetables would be particularly useful and should form part of the European Commission's evaluation of food law within its Regulatory Fitness and Performance Programme.**

Ban on the discard of fish

117. In 2013, legislation was agreed that overhauled the rules governing the Common Fisheries Policy.[205] It includes an obligation to land all catches of species that are subject to EU restrictions. This obligation, known as the 'discard ban' will come into force over the period 2015–2019, applying to an increasing number of species over that time. The rules include a small

198 COM(2014) 112

199 Q 22, Q 302

200 Regulation No 543/2011

201 Apples, citrus fruit, kiwifruit, lettuces and endives, peaches and nectarines, pears, strawberries, sweet peppers, table grapes and tomatoes.

202 Defra

203 Q 32, Q 254

204 Q 67

205 Regulation No 1380/2013

amount of flexibility as well as exceptions for banned species and for those highly survivable species that are likely to survive if returned to the sea rather than landed.

118. Defra noted that the discard ban was a positive step in the right direction, but that the UK Government would be alert when implementing the ban to ensure that waste at sea does not lead to waste on land, particularly where edible fish cannot be made available for human consumption.[206]

119. We concluded in July 2013 that effective implementation of the discard ban must be resolved as a matter of urgency. A specific issue was that of identifying highly survivable species, which could survive if captured and subsequently released back into the sea. We heard that, as yet, the science and process for determining such species is lacking.[207]

120. **Further to reform of the Common Fisheries Policy, we urge swift progress on effective implementation of the discard ban, including the provision allowing an exemption for highly survivable species. Without such progress, the discard ban could have the perverse effect of hindering the prevention of food waste.**

Animal feed

121. Legislation introduced in the light of the BSE (bovine spongiform encephalopathy) crisis prohibits the feeding of processed animal protein (PAP) to most farm animals.[208] On 1 June 2013, the ban on feeding non-ruminant (largely pigs and poultry) PAP to fish was lifted.[209] The recent Commission fitness check of food legislation described the continued restriction of feeding such food to pigs and chickens as "disproportionate" and noted that it would be discussed further.

122. The foot-and-mouth disease outbreak in 2001 led to the UK prohibiting the feeding to animals of catering waste that contains or has been in contact with animal by-products.[210] This was followed by the subsequent enactment of the EU animal by-products legislation.[211] Given that most food waste at retail and consumer stages is mixed, it is difficult to separate out food that has come into contact with animal by-products and food, such as bakery products, that has not. We explore the feeding of the latter type of food to animals in the next chapter.

123. We heard that both restrictions should be removed, as long as robust systems were in place for the safe and centralised collection and processing of such waste in order to protect animal and human health.[212] In addition to the food waste benefits deriving from this idea, there would also be environmental benefits as a substantial amount of soy is currently imported as animal feed, an argument that we explore further in the next chapter. It was noted that

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206 Defra

207 *Reform of the Common Fisheries Policy*, letter from Lord Boswell of Aynho to Richard Benyon MP, 25 July 2013

208 Regulation No 999/2001

209 Regulation No 56/2013

210 Defra, Defra supplementary

211 Regulations No 1069/2009 and No 142/2011 (as amended)

212 Q 46, Q 71, Feeding the 5,000

other countries, such as Japan and South Korea, manage to operate a robust system.[213]

124. Other witnesses were strongly opposed to the removal of restrictions, emphasising that human and animal health should not be compromised. Witnesses in favour of maintaining the ban stated that it was a reflection of the real concerns over exotic animal diseases, such as African swine fever, foot-and-mouth disease and BSE, where mass outbreaks had resulted in severe economic consequences for the European livestock industry.[214] This was reiterated in evidence from the Dutch government, that "the risks of an outbreak are considered at this stage to be so big that we are not into relaxing the measures at the moment".[215]

125. A third group of witnesses, meanwhile, called for further scientific work to explore the potential for a relaxation of the restrictions. Specialist Waste Recycling, for example, said that lifting the measures could potentially have a positive impact on food waste reduction, as an animal is "a walking AD plant", and so this issue should be revisited.[216] The SRA highlighted the issue as highly emotive, stressing that the farming community would first need bringing round to any changes in the law.[217]

126. Defra commissioned a study in 2011 to consider options for the sustainable and safe use of food and catering waste. The study highlighted a lack of data and recommended pilot studies to demonstrate suitable production processes and the level of benefits achievable by using this resource. The study also suggested that public acceptance of animal feed derived from food waste is likely to be an issue. Scientific data demonstrating safety and sustainability would help to inform public opinion.[218] Feeding the 5,000 welcomed the study and noted it would like to see further research as a result of the study.[219]

127. **There is a lack of clarity on the science relating to the feeding of catering waste to animals and of non-ruminant processed animal proteins to non-ruminants, such as pigs. We recommend, as a matter of urgency, specific review of the applicable legislation with a view to assessing recent scientific work and identifying gaps. A lifting of either restriction should only be considered if proven to be safe, and if the appropriate systems, including enforcement, are in place.**

Food hygiene regulations

128. A number of food safety and hygiene regulations are set at the EU level, including: cooling and freezing meat[220]; contamination in food[221]; and hygiene rules and product liability[222].

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213 Q 46, Q 71, Q 268

214 Q 23, Q 121, Defra

215 Q 138

216 Q 268

217 *Ibid.*

218 Q 13, *Science and Research Projects – Recycling of catering and food waste*, Defra

219 Q 46

220 Regulation No 853/2004

221 Regulations No 315/93 and No 1881/2006

129. Some concerns were expressed that EU food safety and hygiene regulations can both increase wastage throughout the supply chain and hamper the possibilities for surplus fresh food to be redistributed.[223] The Dutch food banks described food hygiene and safety as one of their biggest challenges. Retailers made compliance with rules a requirement of donation.[224] While these concerns are important, we also heard that the rules themselves should not be reconsidered.[225] Guidance would, though, be helpful. To support the redistribution of food, the FDF recommended the publication by the Commission of EU Food Donation Guidelines in order "to get clarity around the issues that might arise".[226]

130. Education forms an important part of developing the required understanding of rules. We heard that the SFA offers extensive training to Dutch food banks on compliance with food safety and hygiene legislation.[227] In the hospitality and food service industry, such training was also considered critical, although challenging given the swift staff turnover (see Chapter 3, paragraph 88).[228]

131. It was suggested that a 'Good Samaritan Act' might be helpful, along the lines of an Act in the US which limits food donors' liability for any problems that may subsequently occur (see Box 7).[229] Italy is the only European country so far to have passed similar legislation ('Legge del Buon Samaritano').[230]

BOX 7

US Good Samaritan Food Donation Act (1996)

The US Good Samaritan Food Donation Act (1996) encourages the donation of food and grocery products to non-profit organisations for distribution to individuals in need.

This law:

- protects the donor from liability when donating to a non-profit organisation;
- protects from civil and criminal liability should the product donated in good faith later cause harm to the recipient;
- standardises donor liability exposure; and
- sets a floor of "gross negligence" or intentional misconduct for persons who donate grocery products. According to the new law, gross negligence is defined as "voluntary and conscious conduct by a person with knowledge (at the time of conduct) that the conduct is likely to be harmful to the health or well-being of another person".[231]

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222 Regulation No 852/2004

223 Q 36, Q 254, ARAMARK

224 Q 171, Q 185

225 Q 13, Copa-Cogeca

226 Q 36, FDF

227 Q 165, Q 186

228 Q 261

229 Q 37, Feeding the 5,000

230 Legge 155/2003

231 Bill Emerson Good Samaritan Food Donation Act (1996), http://www.law.cornell.edu/uscode/text/42/1791

132. We were warned, though, that highlighting the issue may have perverse consequences should such a law not be adopted. That is, if there was a structured debate and discussion about the introduction of such legislation, which then drew the conclusion that it was "a solution looking for a problem" and it did not get introduced, this could leave potential donors taking a more risk-averse approach than is currently the case.[232]

133. **We conclude that there is both confusion and a lack of expertise relating to the impact of EU food safety and hygiene rules on food waste prevention. The issues are not insuperable, but would benefit from guidance from the European Commission on the types of food that can be donated and on compliance with regulations. We are unconvinced of the need for a Good Samaritan Act due to the potential for perverse consequences. Such an Act should only be proposed if there is a clear problem to be addressed.**

Food Information for Consumers Regulation

134. The recently adopted Food Information for Consumers (FIC) Regulation[233] sets out new provisions on 'best before' and 'use by' dates (see Chapter 3, Box 4), generally leaving it to businesses to decide which date should be used for a particular food. There are exceptions, such as eggs, which are required to be labelled with a 'best before' date under separate egg marketing regulations.[234] The FIC Regulation also includes requirements relating to the provision of information on storage conditions.[235]

135. We explored consumer confusion relating to date labelling in Chapter 3 (see paragraphs 70–72). A specific linguistic issue arising from interpretation of the FIC Regulation related to uncertainty as to whether the term 'use by' applies to the end or the beginning of the stated day. In other official languages of the EU, the meaning is much clearer than in English. This, it was argued, was a particular area of concern for sandwich manufacturers and could lead to the unnecessary wastage of 6% of stock. It would therefore be helpful to be able to provide language such as "use by end of".[236]

136. **We recommend that the UK Government work with the European Commission to establish whether the term "use by end of" would be consistent with the Food Information for Consumers (FIC) Regulation in order to ensure clarity of labelling for retailers and consumers. We also recommend that the European Commission review the implementation of the FIC Regulation, including public recognition of the respective dates and awareness of storage conditions.**

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232 Q 69

233 Regulation No 1169/2011

234 BRC supplementary

235 Defra

236 Bob Salmon

Packaging and Waste Packaging Directive

137. The EU's Packaging and Waste Packaging (PWP) Directive[237] seeks to harmonise national measures concerning the management of such waste to provide a high level of environmental protection and ensure the functioning of the single market. It sets various targets on recycling, reuse and recovery, but does not include packaging prevention targets.

138. As explained in the previous chapter, packaging can have a positive role in preventing food waste (see Chapter 3, paragraphs 74–75). Others sounded a more cautionary note, emphasising the continued need to reduce packaging waste and to promote sustainable packaging.[238]

139. The Commission is in the process of reviewing various pieces of EU waste legislation, including the PWP Directive. One suggestion made by the Commission in its consultation document was to include a packaging waste prevention target, an idea opposed by the UK Government, who believe it would be better to focus on the product and innovation in product design to minimise the need for packaging.[239]

140. The UK Government told us that they have undertaken substantial analysis to assess the point at which packaging reduction might become deleterious to food waste prevention. It was on the basis of that analysis that Courtauld Commitment 3 contains only a 3% packaging reduction target for food (see Appendix 5).[240] In the Netherlands, we heard that further progress is still required before reaching that same point.[241]

141. **Food packaging often performs an important waste prevention function. We urge the European Commission to ensure that, in its review of the Packaging and Waste Packaging Directive, provisions are not introduced that may have the unintended consequences of discouraging innovative packaging that might help to prevent food waste.**

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237 Directive 94/62 (as amended)

238 Q 68, Q 165

239 *EU Commission review of waste policy and legislation: UK government response*, Defra, 3 December 2013

240 Q 306

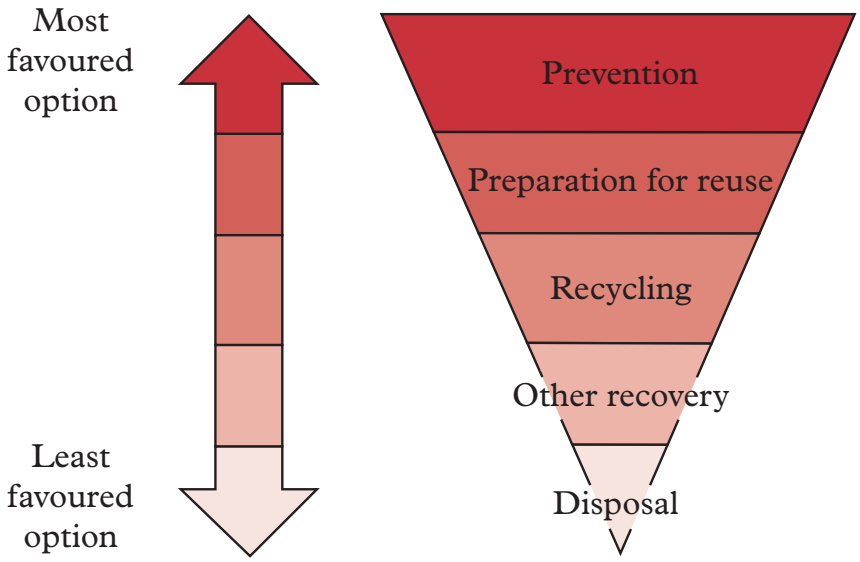
241 Q 167

CHAPTER 5: RESPECTING THE 'WASTE HIERARCHY'

142. The EU's Waste Framework Directive sets out a 'waste hierarchy' (see Figure 4), from prevention through to disposal via minimisation, reuse, recycling and recovery.[242] In this chapter, we consider how practical application of the waste hierarchy to the food supply chain may have implications for food waste prevention throughout the chain.

FIGURE 4

The 'waste hierarchy'



Source: Directive 2008/98

143. As applied to food, it has been argued that the waste hierarchy translates into a 'food use hierarchy' (see Figure 5) from prevention to landfill via redistribution to humans, feeding to animals and energy or nutrient recovery by methods such as AD and in-vessel composting (IVC) (see Box 8).[243] In the Netherlands the food utilisation hierarchy is referred to as the 'Ladder van Moerman', where each successive step down the hierarchy from waste prevention down towards treatment and disposal represents a loss in food value and a less desirable option.[244]

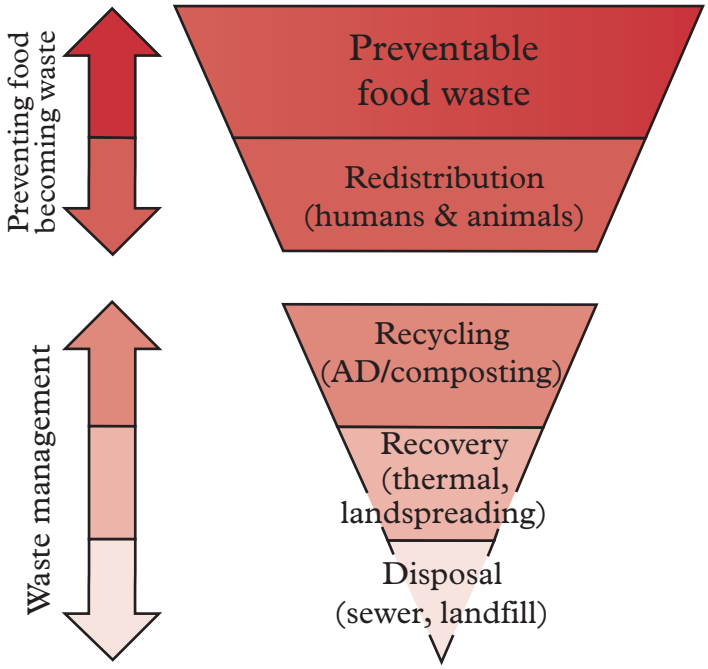
[242] Directive 2008/98

[243] Q 48, Feeding the 5,000, WRAP, "Every Crumb Counts" Joint Food Wastage Declaration

[244] *Companies*, Damn Food Waste

FIGURE 5

The 'food use hierarchy'



Source: WRAP supplementary

BOX 8

Anaerobic digestion and in-vessel composting

Anaerobic digestion

AD is a natural process whereby plant and animal materials (biomass) are broken down by micro-organisms in the absence of air. Many forms of biomass are suitable for AD, including food waste, slurry and manure, as well as crops and crop residues.

The process is carried out in three steps. First, biomass is put inside a sealed tank or digester. Second, naturally occurring micro-organisms then digest the biomass, releasing a methane-rich gas (biogas). This gas can be used to generate renewable heat and power. Finally, the remaining material (digestate) is rich in nutrients and can be used as a fertiliser.[245]

In-vessel composting

IVCs can be used to treat food and garden waste mixtures. These systems ensure that composting takes place in an enclosed environment, with accurate temperature control and monitoring.

The feedstock is shredded to a uniform size and loaded in the first 'barrier'. Naturally occurring micro-organisms break down the material, releasing nutrients and increasing the temperature to the 60–70˚C necessary to kill pathogens. After the first stage (which can take between seven days and three weeks), the material transfers to the second 'barrier' and continues to compost, usually for a similar duration.

[245] *What is AD?*, The Official Information Portal on Anaerobic Digestion

During both stages the oxygen level, moisture and temperature are carefully monitored and controlled to ensure full sanitisation of the material. After being sanitised, the compost is left to mature in an open windrow[246] or enclosed area for approximately 10–14 weeks to ensure stabilisation.[247]

144. The inquiry detected no disagreement with the principle of such a food use hierarchy. Defra emphasised the economic benefits of waste prevention rather than allowing waste to occur and to pass down the hierarchy.[248] Other witnesses, including the waste management industry, were clear that they saw prevention, followed by redistribution, as appropriate.[249] Indeed, waste prevention can be a requirement of waste management contracts according to SITA UK and Veolia.[250] The Environmental Services Association (ESA), representing the waste management industry, has agreed a Responsibility Deal with the UK Government, which includes a commitment to promote the waste hierarchy.[251]

145. **We share the view of our witnesses that the waste hierarchy as applied to food is most effectively represented as a food use hierarchy, focused on prevention and redistribution to humans and animals, wherever possible. As this interpretation has not been formally recognised, we recommend that the European Commission publishes guidance on the application of the waste hierarchy to food.**

146. We heard concerns, however, that economic drivers tend to distort the hierarchy, with a result that there are incentives directed towards lower stages of the hierarchy, including both AD and IVC, rather than redistribution.[252] According to FareShare: "at the moment, we have a waste hierarchy that is completely out of kilter with the economic hierarchy that sits alongside it".[253] Waitrose acknowledged that there is a clear temptation, on economic grounds, to prioritise energy recovery over redistribution, although Waitrose itself is supportive of redistribution, as it prefers to have "food used as food".[254]

147. Turning first to the economics of food redistribution for charitable purposes, we heard that fiscal tools are available to promote such redistribution, which could help to align economic incentives more effectively with the food use hierarchy. One financial tool available to Member States is the possibility to exempt food donated for charitable purposes from value added tax (VAT) under Articles 16 and 74 of the VAT Directive[255].[256] The European Commission has adopted guidance which clearly supports that

246 A windrow is a long line of raked hay, corn sheaves, or peats laid out to dry in the wind.

247 *In-vessel composting (IVC)*, WRAP

248 Defra

249 Q 232, QQ 235-236, Q 238, ESA supplementary

250 Q 235

251 *Ibid.*

252 Q 66, Q 72, Feeding the 5,000

253 Q 66

254 Q 232

255 Directive 2006/112

256 Q 36, FDF, "Every Crumb Counts" Joint Food Wastage Declaration

interpretation.[257] According to the FDF, 13 Member States currently take advantage of this derogation, including the UK.[258] We detected frustration that the measure has not, though, been adopted more widely. Tesco expressed relief that Poland had recently introduced the option, which would assist Tesco's redistribution efforts there.[259] The FDF, representing food manufacturers (which is a sector with a high level of surplus food),[260] wanted to see this approach "extended across all Member States" so as to achieve a harmonised approach across the EU to interpretation of the VAT Directive.[261]

148. Another fiscal option already operated in some countries is to offer tax deductions for redistribution schemes. In the US, which has extensive networks for food redistribution on a far larger scale than European operations,[262] Section 170(e)(3) of the Internal Revenue Code allows certain businesses to earn a tax deduction for donating food and can claim tax breaks on shipments of food if donated food is transported using spare capacity in delivery vehicles.[263] Feeding the 5,000 noted that government incentives for diverting surplus food for human consumption are rare in EU countries, although France is reportedly moving towards tax breaks for businesses that donate their food for charitable redistribution.[264] The idea of exercising such fiscal options was described by FareShare as potentially "transformational" if it succeeded in creating an economic incentive for private operators to redistribute food, beyond the current moral incentive.[265]

149. Partnerships through the supply chain may also be able to ensure that food is redistributed efficiently. One possible model has been developed by the Spanish agri-food cooperatives and Spanish Federation of Food Banks to distribute fruit and vegetables among the neediest people.[266] Such cooperation has the added value of reducing the reliance of food aid organisations on packaged and tinned products, rather than fresh products.[267]

150. **We conclude that there are fiscal tools available to support the redistribution of surplus edible food, ranging from value added tax (VAT) exemptions to tax deductions and tax breaks. We recommend that the European Commission communicates its agreed guidance on application of the VAT Directive, ensuring that it is publicised and is easily accessible on its website.**

151. **Furthermore, we recommend that the European Commission undertakes an assessment of fiscal measures that might be adopted to encourage food redistribution, with a view to possible adoption by**

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257 Q 13. Guidelines resulting from the 97th meeting of the VAT Committee of 7 September 2012, Document C-taxud.c.1(2012)1701663-745

258 Q 36

259 Q 221

260 WRAP

261 Q 36

262 *About us*, Feeding America

263 Feeding the 5,000, "Every Crumb Counts" Joint Food Wastage Declaration

264 Feeding the 5,000

265 Q 69

266 NFU

267 Q 69

Member States. In the meantime, we recommend that the UK Government undertake their own assessment of how they might further promote the redistribution of food to humans by way of fiscal measures. Particular attention should be given to encouraging the redistribution of fresh, nutritious food.

152. Moving down the hierarchy, the next stage is the use of food not fit for human consumption for livestock feed. As highlighted in the previous chapter, this is only permitted where food has not been in contact with animal by-products (see Chapter 4, paragraph 122). It would therefore include food such as fruit, vegetables, biscuits, bread and pasta, provided that these have been fully segregated and have not come into contact with animal by-products. One impact of the constraints around feeding surplus food to animals is that substitute feed must be provided for livestock from primary sources. In large part, this has been in the form of soymeal, which has been met partly by the deforestation of South American rainforest in order to provide sufficient land to grow the soy to meet demand. WWF UK told us that the EU is now the largest importer of soy for animal feed from South America, amounting to around 40 million tonnes.[268]

153. Feeding the 5,000 was clear that feeding food that cannot be redistributed back to animals is also more energy efficient than transforming it into energy.[269] WWF UK agreed, noting that food is very resource-intensive and requires energy as an input at the beginning of the process: "if we are going to make this food, we ought to eat it as people, and then it should go to the livestock", rather than being transformed back into energy.[270]

154. The UK Government stated: "Defra and the Animal Health and Veterinary Services Agency encourage the use of biscuits, bread, etc. in animal feed, provided it is safely sourced and adequately separated, and have worked with industry on schemes to improve the volume of retail waste able to be used in feeding."[271] They reported that, within the context of the Hospitality and Food Service Agreement, a working group is considering the production of guidance on the feeding of catering waste to animals so that it is very clear what is allowed and what is not allowed.[272]

155. **We welcome work underway in the UK to clarify what food waste from the retail and catering sectors is permitted to be fed to animals. We emphasise the urgency of the work and consider that publication of such work would also be helpful at the European level.**

156. We examined recovery as the next stage of the hierarchy. The AD sector has been widely supported by subsidy.[273] In the UK, this has taken the form of Renewable Obligation Certificates and feed-in tariffs.[274] While the UK has only the sixth largest number of AD plants among European countries,[275] the

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[268] Q 47

[269] Q 48

[270] Q 48

[271] Defra

[272] Q 13

[273] Q 72, Q 203, Q 245, Feeding the 5,000

[274] Q 245

[275] *Ibid.*

UK is unusual in treating a lot of food waste through AD.[276] Efforts to boost AD in the UK are underpinned by the Government's AD strategy.[277] It was generally agreed that energy and nutrient recovery from unavoidable food waste will remain essential as options for unavoidable food waste.[278] ADBA suggested that more action could be undertaken across the EU to promote the use of AD.[279] Ultimately, though, as Sustain commented: "The most desirable things need to have the right economic penalties and incentives so that they are more attractive than the ones at the bottom [of the hierarchy]."[280]

157. **We recommend that the European Commission assess policy and financial intervention throughout the food use hierarchy, publishing guidance for Member States on how such intervention can most effectively align with the hierarchy. Such guidance would helpfully include best practice at each stage of the hierarchy.**

158. The final element of the waste hierarchy is disposal. As indicated above, the availability of the separate collection of food waste from mixed waste is an important part of diverting food waste from disposal. There was general agreement that sufficient incentives are in place to discourage the disposal of waste through landfill, at least in principle. In the UK the Landfill Tax has been put in place to reduce landfill disposal and was increased to £80 per tonne on 1 April 2014, remaining at least at this level until 2020.[281] Until its end in 2013, the Landfill Allowance and Trading Scheme set a limit on the amount of biodegradable waste that local authorities could place in landfill. Witnesses were agreed that the measures were responsible for a reduction in the amount of waste sent to landfill.[282] Other solutions included a ban on landfill, which has been used in other EU countries and will be introduced in Scotland from 2015.[283]

159. WRAP emphasised that "there is still far too much stuff going to landfill so the evidence is that [the drivers are] not entirely right".[284] A waste analysis in Shropshire in 2013 showed that food waste was the major component of waste sent for disposal, forming 34.3% of the total and in one area was as high as 48%.[285] To ensure that food waste is available for recovery, rather than being sent for disposal in landfill, an increase in the separate collection of waste food was considered necessary.[286] In March 2013, 26% of Councils in England collected food waste separately, compared to 95% in Wales, 34% in Scotland and 4% in Northern Ireland.[287] On 1 January 2014, the separate collection of commercial food waste became obligatory in Scotland for large

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276 Q 203

277 Defra

278 Q 235, Q 247, Q 251, Defra

279 Q 250

280 Q 72

281 Q 7, Defra

282 Q 7, Q 72, Q 200, Q 236, Feeding the 5,000, Unilever

283 Q 236, Q 255

284 Q 203

285 Shropshire Council

286 Q 239, Q 245, ESA supplementary, Greater Manchester Waste Disposal Authority

287 Q 255, ADBA supplementary, WRAP

urban businesses, to be extended to smaller urban businesses in 2016.[288] To overcome some of the observed variation among Councils and Devolved Administrations, the House of Lords Science and Technology Committee recommended that local authorities be offered further guidance to enable them to put in place waste collection facilities which maximise the value that can be extracted from waste.[289]

160. The Catering Equipment Suppliers' Association (CESA) expressed concern about the focus in Scotland on the separate collection of waste to be sent to AD, accompanied by offers of public subsidy. It argued that alternative technologies exist within kitchens for the treatment of waste.[290] Such available technologies include food waste disposers and digesters, which use sewers to transport waste for processing as sewage sludge through AD at waste water treatment works. This type of disposal, known as 'sink to sewer', has been banned in Scotland and the Republic of Ireland. It has also been identified by WRAP as a factor that may hinder the monitoring of food waste, particularly within service sector catering[291] and Water UK has also raised environmental concerns over their potential impact on waste water systems.[292]

161. **Even if economic incentives are aligned with the food use hierarchy, energy and nutrient recovery will remain essential components of food waste management, as preferred options to disposal. Economic incentives to discourage landfill have been effective, but efforts must continue to reduce further the amount of landfill.**

162. **As significant quantities of food waste are currently sent to landfill in the UK, we conclude that the provision of separate food waste collections remains, where feasible, an important aspect of moving food waste off the bottom rung of the hierarchy. We therefore note with interest the example of the Scottish Government in making separate collections obligatory for urban businesses. We recommend that the UK Government develop a best practice model for such separate collection, at both household and commercial level, for Councils throughout England. In turn, we recommend that the European Commission ensure that experiences with such collections are shared across the EU, including their impact on landfill volumes.**

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288 Zero Waste Regulations, Scotland

289 Science and Technology Committee, *Waste or resource? Stimulating a bioeconomy* (3rd Report, Session 2013-14, HL Paper 141)

290 CESA

291 *Overview of Waste in the UK Hospitality and Food Service Sector*, WRAP, November 2013

292 *Macerators – the impact on sewers*, Water UK

CHAPTER 6: STRATEGIC EU ROLE

163. The inquiry took evidence from most witnesses on the role that the EU could play in preventing and reducing food waste. This chapter therefore considers what, if any, strategic role the EU should play.

164. It was clear from the evidence received that most witnesses see the EU as playing a role in preventing food waste, several elements of which have already been set out: standardisation of approaches to defining different material and waste flows at each stage of the food supply chain, establishment of a data and monitoring framework across the EU and adapting current EU reporting procedures, non-binding target setting (Chapter 2); encouraging greater collaboration in, and oversight of, the supply chain (Chapter 3); assessing the EU's own regulatory framework to ensure its compatibility with the goal of food waste prevention (Chapter 4); and monitoring with respect for the waste hierarchy as applied to food (Chapter 5).

165. In addition to those activities, the Dutch government also felt that the EU could give an extra impulse to research and innovation in this area through the EU's research funding programme, Horizon 2020[293] (see Box 9).[294]

BOX 9

Horizon 2020

Horizon 2020 provides €77 billion of funding to support EU research and innovation between 2014 and 2020.

One element of Horizon 2020 is 'food and healthy diet'. Under this category, the Programme hopes to create "opportunities for a sustainable and competitive agri-food industry, through innovation in food processing". This includes research at all stages, including food design, packaging, process design and control, waste reduction and by-product valorisation.

This category further intends to promote "informed consumer choices", with research focusing on the preferences, attitudes, needs, behaviour, lifestyle and education of consumers. As part of this, activities aim to enhance communication between consumers, the food industry and the research community.[295]

166. Horizon 2020 is the new EU programme for investment in research and innovation, running from 2014 to 2020. In the Netherlands, the Dutch government said it is desirable that within the Horizon 2020 framework the European Commission should supply "additional support" for research and innovation to stimulate food waste reduction.[296]

167. We were warned, however, that any research strategy must be systemic in thinking and take into account the broader picture, without focusing on single innovations. We heard that one issue with the Horizon 2020 programme is that it is currently "siloised" in its activities. Rather, such

[293] Regulation No 1291/2013

[294] Q 123

[295] *Horizon 2020: Food & Healthy Diet*, European Commission

[296] Q 123

programmes require "big systems thinking", taking the whole situation into account, as otherwise action in one area could result in creating negative impact elsewhere down the supply chain.[297]

168. One example of a food waste related project supported by EU research funding is FUSIONS, in relation to which the inquiry took a substantial amount of evidence (see Appendix 6).[298] It was widely recognised by witnesses that the task set for FUSIONS is a formidable one, not least due to its size and the number of project partners that must be managed. The ambitious targets set by the Commission were also considered an added challenge to the project.[299] WRAP informed us that it had written to the FUSIONS project leader to express concern over the delay in meeting particular milestones.[300] Despite warnings of failure, it was conceded that FUSIONS is still relatively embryonic and that it needs to be given more time to develop before a judgment can be made.[301] WRAP has agreed to develop an action plan with FUSIONS to ensure that the project remains on track.[302]

169. **Research and innovation are core to progress in food waste prevention. Conceptually, FUSIONS is an excellent example of pan-EU collaboration in this area supported by EU research funding. We are concerned, however, that there is a serious risk that it will not meet expectations. We recommend that the European Commission monitor closely the work of FUSIONS, with a view to intervening if its progress fails to meet expectations.**

170. FUSIONS represents the only strategic approach across the EU to food waste prevention. Unilever called on the EU to set ambitious goals for food waste prevention and to identify a coordinated strategy.[303] It was argued that such an approach is important as food waste is an issue not limited to one or two countries.[304] A pan-European strategy would therefore provide clear guidelines for all Member States, ensuring clarity and consistency, and therefore prevent misinterpretation of "grey" areas.[305]

171. A number of witnesses also highlighted the specific role the EU could play in terms of communication and providing information. Copa-Cogeca noted that the EU could have a role in actions directly targeted at consumers, including access to better information regarding food storage.[306] Sodexo adopted a similar stance, and argued that the EU should be bringing communication efforts together and driving it through from the top level down to Member States.[307]

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297 Q 289

298 Q 3, Q 27, Q 40, Q 51, Q 80, Q 100, Q 123, Q 204, Q 218, Q 247, Defra, FDF, INCPEN, Sodexo supplementary, Unilever, WRAP

299 Q 40, Q 51, Q 218, Q 204, Sodexo

300 Q 204

301 Q 51, Q 204, WRAP further supplementary

302 Q 204

303 Unilever

304 Q 117

305 Q 62

306 Copa-Cogeca

307 Q 63

172. Others were less specific, but nevertheless emphasised the valuable role that the EU could play in sharing and communicating best practice, particularly valuable given the highly variable progress made across the EU thus far.[308] The Dutch government, for example, stated that by simply placing food waste on the agenda and urging Member States to address the issue, the Commission could definitely have a "big impact" throughout Europe. In a broader sense, it stressed that food waste forms a major pillar within the sustainable food system, necessitating an integrated approach with all the different stakeholders.[309]

173. Finally, we heard that there is a need for leadership from the EU. Witnesses argued that by taking such a role, the EU could stimulate a reduction in food waste, including a change in culture throughout the supply chain, from consumers through manufacturers to producers on the farm.[310]

174. The inquiry received diverging evidence on the costs and benefits of acting to prevent food waste. On the one hand, emphasis was placed on the inherent 'uncertainties' of acting on food waste and that "it has to make sense in the marginal or social cost benefit analysis".[311] At this stage it was not known how far waste prevention could go before the costs out-weighed the benefits.[312]

175. On the other hand, the inquiry received overwhelming evidence of the 'wider costs' of food waste to consumers, businesses and society, and thus the potential gains to be achieved from food waste prevention.[313] Such savings occur not only in the food purchased by consumers, but in the money spent on energy and water to produce it. Although minimal data are available from across the EU, we heard that between 2007 and 2012 there was a reduction of 1.3 million tonnes (15%) in UK household food waste (despite an increase of 4% in the number of UK households). This reduction reportedly saved UK households £3.3 billion in 2012 alone—approximately £130 for the average household. The reduction in food waste in bins subsequently saved local authorities around £85 million in avoided Landfill Tax and gate fees in 2012.[314] WRAP estimates that around 15 million tonnes of food waste arise in the UK every year, which represents a financial loss to businesses of at least £5 billion a year,[315] with a tonne of food wasted in manufacture typically valued at £950.[316]

176. **We fail to observe a clear and urgent strategic direction from the European Commission and Member States to reduce and prevent food waste. Efforts across the EU are fragmented and untargeted. The potential gains to be achieved from action are significant but policy makers have so far been paralysed by uncertainty. We reject**

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308 Q 196, Q 235, Q 241

309 Q 117

310 Q 38, Q 209, Q 281, Q 285

311 Q 7

312 Q 1

313 *Ibid.*, Q 26, CESA, Defra, FDF, Feeding the 5,000, IME, NLWA, Packaging Federation, Shropshire Council, Unilever, WRAP

314 WRAP supplementary

315 WRAP

316 Q 202, FDF, WRAP

the argument that action should be delayed until the costs of waste prevention further down the path are clearer. If the opportunity is not seized to drive action across the EU, Member States will count the costs.

177. **We recommend that, within six months of entry into office, the new European Commission publish a five-year strategy on food waste prevention. This should set out a Roadmap to address the issues raised throughout this inquiry and to ensure that best practice identified in one Member State can be easily translated into action elsewhere. It is also vital that coordination between the Directorates-General is improved, with clearer divisions of responsibility.**

178. **We consider a non-legislative approach to be appropriate initially, encouraging Member States to take action, such as the preparation of measurable food waste prevention plans. Should sufficient action not be identified within five years of publishing the strategy, a legislative approach should be adopted by the European Commission.**

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

Chapter 2: Defining, monitoring, and setting targets for food waste

179. Food waste is more apparent, and easier to define, towards the end of the supply chain. At the producer level, though, the issue is much more complex, particularly in relation to on-farm losses. We conclude that food grown but not harvested due to adverse weather conditions should not be considered as food waste. On the other hand, food not harvested for other reasons, such as change in demand, should be included within the definition of food waste. (paragraph 31)

180. We conclude that the idea of a universal food waste definition that works across the food supply chain and at different geographical scales defies the complexities of the European food supply chain. We recommend that a more productive approach would be to standardise approaches to defining different material and waste flows at each stage of the food supply chain, including unavoidable waste. (paragraph 32)

181. We conclude that food waste is a data-poor area across the main sectors where it arises. In some instances, assessment has been shown to be possible. This is particularly so among larger retailers and food service companies. It is, however, much more difficult to assess the quantity and nature of food waste at the producer, manufacturer and consumer levels and within smaller businesses in particular. (paragraph 38)

182. In order to boost data availability across the EU, the current Member State reporting requirements must be reformed, so that food waste can be more reliably identified. This requires action on the part of EUROSTAT and Member States in order to reform some of the existing reporting categories that currently conceal food waste estimates. (paragraph 42)

183. Recent developments in the UK and Norway illustrate how voluntary public disclosure and greater openness about food waste arisings can be successfully achieved. Although a compulsory reporting framework for large companies could be feasible, the European Commission should consider ways of facilitating voluntary public disclosure. Recently agreed EU legislation on the disclosure of non-financial information by large companies, including environmental information, offers a possible framework for such voluntary reporting. (paragraph 45)

184. Food waste monitoring and data collection across the supply chain must be effectively resourced across the EU. In the UK, there is a high risk of false economy if the cuts to WRAP's funding to support food waste prevention ultimately lead to resource inefficiency in terms of economic costs to businesses and households, and environmental costs from greenhouse gas emissions and water and energy consumption. We therefore recommend that the UK Government work closely with WRAP to assess the impact of the budget cut on WRAP's ability to contribute to food waste prevention, particularly in the context of its unique ability to work along the whole supply chain. (paragraph 48)

185. A common definition, a coherent set of data and reporting requirements are not prerequisites for action. We consider it self-evident that, in a resource-efficient Europe, all involved throughout the supply chain should be looking to minimise waste of all varieties. (paragraph 51)

186. We conclude that a binding target requires adequate baseline information, which is simply not available across the EU at present. Given the difficulties relating to a common definition across the supply chain, we recommend that consideration be given to the development of aspirational targets for each level of the supply chain. We believe that aspirational targets set at the EU level could help focus Member State attention and encourage efforts to prevent food waste throughout the supply chain. (paragraph 57)

Chapter 3: Food waste from farm to fork

187. We agree that consumers have an important role to play in reducing food waste. While increasingly unpredictable lifestyles create challenges for food waste prevention and reduction in the home, these are not insurmountable. Rather, efforts to help consumers to tackle food waste must be made within the context of those challenges. The awareness-raising work carried out in a number of Member States has rightly put emphasis on enabling consumers to find solutions to food waste in the home. Tools that can be used include simple and practical ideas for recipes, but extend also to innovations such as the Dutch 'Smart Cooking' mobile phone application and the innovative microchip and food label 'tags' that can monitor the actual state of food. (paragraph 66)

188. It is clear that retailers must assume a far greater responsibility for the prevention of food waste in the home. Retailers must ensure that incentives and promotions offered to consumers do not transfer waste from the store to the household. (paragraph 69)

189. We conclude that date labelling on foods remains confusing to consumers. Retailers have a key role to play in ensuring that consumers understand dates and are not misled. We therefore recommend urgent publication of the advanced guidance to which the UK Government referred. (paragraph 72)

190. We conclude that few consumers are aware that packaging can be crucial for the durability of food. Retailers have a responsibility to communicate the benefits of packaging and information about how food should be stored to avoid premature deterioration and unnecessary food waste. (paragraph 75)

191. It is clear that actions by retailers, such as the cancellation of orders of food that has already been grown, leads to food waste earlier in the food supply chain. We recommend a renewed effort by businesses to promote cooperation and shared financial responsibility. This effort should, amongst others, include: careful consideration of contractual requirements in the sector, including much wider use of long-term contracts and ones where the relationship between different ends of the supply chain does not encourage overproduction; the encouragement of whole-crop purchasing; and improvements to forecasting. (paragraph 85)

192. The supply chain cooperation model observed in the Netherlands is, we conclude, helpful and self-sustaining. It is one that could be promoted at the national and European levels, along with the best practice from WRAP's whole supply chain work under the Product Sustainability Forum. We recommend that the European Commission considers bringing together EU level bodies representing the various parts of the supply chain, building on existing mechanisms. Consumers must be represented in such work. (paragraph 97)

193. We support the development of a Grocery Supply Code of Practice across the EU, to be regulated by Member States and monitored by the European Commission. The development of the approach in the UK should feed into policy development at European level, where extension of the Code beyond direct relationships in the supply chain is welcome. (paragraph 102)

Chapter 4: EU regulation

194. We detect no systematic attempt across the European Commission to assess the impact on food waste of its policies. We therefore recommend the establishment of a cross-Departmental working group on the issue. We welcome the recommendation that an evaluation of the General Food Law should form part of the Commission's Regulatory Fitness and Performance Programme. We recommend that its remit extend to consider the impact on food waste prevention of EU legislation beyond that Law. (paragraph 107)

195. The Common Agricultural Policy (CAP) does not aim explicitly to prevent food waste. Nevertheless, a move towards a more competitive agricultural industry, as is the intention of the reformed CAP, should have the effect of reducing waste on-farm. The CAP offers methods to accelerate that progress. In implementing the CAP, we recommend that the UK Government consider on-farm food waste prevention as an integral part of the policy, given the clear economic benefits of doing so. Such consideration should include: the fruit and vegetable scheme; the provision of appropriate farm advice; access to the European Innovation Partnership; and rural development funding. (paragraph 114)

196. We recommend that the European Commission prepares guidance on the use of CAP instruments to support on-farm food waste prevention, particularly through the Rural Development Regulation and the Common Organisation of the Markets Regulation. (paragraph 115)

197. We consider that an assessment of the impact on food waste of marketing standards for fresh fruit and vegetables would be particularly useful and should form part of the European Commission's evaluation of food law within its Regulatory Fitness and Performance Programme. (paragraph 116)

198. Further to reform of the Common Fisheries Policy, we urge swift progress on effective implementation of the discard ban, including the provision allowing an exemption for highly survivable species. Without such progress, the discard ban could have the perverse effect of hindering the prevention of food waste. (paragraph 120)

199. There is a lack of clarity on the science relating to the feeding of catering waste to animals and of non-ruminant processed animal proteins to non-ruminants, such as pigs. We recommend, as a matter of urgency, specific review of the applicable legislation with a view to assessing recent scientific work and identifying gaps. A lifting of either restriction should only be considered if proven to be safe, and if the appropriate systems, including enforcement, are in place. (paragraph 127)

200. We conclude that there is both confusion and a lack of expertise relating to the impact of EU food safety and hygiene rules on food waste prevention. The issues are not insuperable, but would benefit from guidance from the European Commission on the types of food that can be donated and on compliance with regulations. We are unconvinced of the need for a Good Samaritan Act due to the potential for perverse consequences. Such an Act

should only be proposed if there is a clear problem to be addressed. (paragraph 133)

201. We recommend that the UK Government work with the European Commission to establish whether the term "use by end of" would be consistent with the Food Information for Consumers (FIC) Regulation in order to ensure clarity of labelling for retailers and consumers. We also recommend that the European Commission review the implementation of the FIC Regulation, including public recognition of the respective dates and awareness of storage conditions. (paragraph 136)

202. Food packaging often performs an important waste prevention function. We urge the European Commission to ensure that, in its review of the Packaging and Waste Packaging Directive, provisions are not introduced that may have the unintended consequences of discouraging innovative packaging that might help to prevent food waste. (paragraph 141)

Chapter 5: Respecting the 'waste hierarchy'

203. We share the view of our witnesses that the waste hierarchy as applied to food is most effectively represented as a food use hierarchy, focused on prevention and redistribution to humans and animals, wherever possible. As this interpretation has not been formally recognised, we recommend that the European Commission publishes guidance on the application of the waste hierarchy to food. (paragraph 145)

204. We conclude that there are fiscal tools available to support the redistribution of surplus edible food, ranging from value added tax (VAT) exemptions to tax deductions and tax breaks. We recommend that the European Commission communicates its agreed guidance on application of the VAT Directive, ensuring that it is publicised and is easily accessible on its website. (paragraph 150)

205. Furthermore, we recommend that the European Commission undertakes an assessment of fiscal measures that might be adopted to encourage food redistribution, with a view to possible adoption by Member States. In the meantime, we recommend that the UK Government undertake their own assessment of how they might further promote the redistribution of food to humans by way of fiscal measures. Particular attention should be given to encouraging the redistribution of fresh, nutritious food. (paragraph 151)

206. We welcome work underway in the UK to clarify what food waste from the retail and catering sectors is permitted to be fed to animals. We emphasise the urgency of the work and consider that publication of such work would also be helpful at the European level. (paragraph 155)

207. We recommend that the European Commission assess policy and financial intervention throughout the food use hierarchy, publishing guidance for Member States on how such intervention can most effectively align with the hierarchy. Such guidance would helpfully include best practice at each stage of the hierarchy. (paragraph 157)

208. Even if economic incentives are aligned with the food use hierarchy, energy and nutrient recovery will remain essential components of food waste management, as preferred options to disposal. Economic incentives to discourage landfill have been effective, but efforts must continue to reduce further the amount of landfill. (paragraph 161)

209. As significant quantities of food waste are currently sent to landfill in the UK, we conclude that the provision of separate food waste collections remains, where feasible, an important aspect of moving food waste off the bottom rung of the hierarchy. We therefore note with interest the example of the Scottish Government in making separate collections obligatory for urban businesses. We recommend that the UK Government develop a best practice model for such separate collection, at both household and commercial level, for Councils throughout England. In turn, we recommend that the European Commission ensure that experiences with such collections are shared across the EU, including their impact on landfill volumes. (paragraph 162)

Chapter 6: Strategic EU role

210. Research and innovation are core to progress in food waste prevention. Conceptually, FUSIONS is an excellent example of pan-EU collaboration in this area supported by EU research funding. We are concerned, however, that there is a serious risk that it will not meet expectations. We recommend that the European Commission monitor closely the work of FUSIONS, with a view to intervening if its progress fails to meet expectations. (paragraph 169)

211. We fail to observe a clear and urgent strategic direction from the European Commission and Member States to reduce and prevent food waste. Efforts across the EU are fragmented and untargeted. The potential gains to be achieved from action are significant but policy makers have so far been paralysed by uncertainty. We reject the argument that action should be delayed until the costs of waste prevention further down the path are clearer. If the opportunity is not seized to drive action across the EU, Member States will count the costs. (paragraph 176)

212. We recommend that, within six months of entry into office, the new European Commission publish a five-year strategy on food waste prevention. This should set out a Roadmap to address the issues raised throughout this inquiry and to ensure that best practice identified in one Member State can be easily translated into action elsewhere. It is also vital that coordination between the Directorates-General is improved, with clearer divisions of responsibility. (paragraph 177)

213. We consider a non-legislative approach to be appropriate initially, encouraging Member States to take action, such as the preparation of measurable food waste prevention plans. Should sufficient action not be identified within five years of publishing the strategy, a legislative approach should be adopted by the European Commission. (paragraph 178)

APPENDIX 1: LIST OF MEMBERS AND DECLARATIONS OF INTEREST

The Members of the Sub-Committee that conducted this inquiry were:

Lord Bowness
Baroness Byford
Lord Cameron of Dillington
Lord Giddens (resigned December 2013)
Baroness Howarth of Breckland
Lord Lewis of Newnham
Baroness Parminter
Lord Plumb
Lord Renton of Mount Harry
Baroness Scott of Needham Market (Chairman)
Lord Whitty
Lord Williams of Elvel

Declarations of interest:

Lord Bowness
No relevant interests declared

Baroness Byford
Family farm in Suffolk
Member, National Farmers' Union
Member, National Trust
Member, Country Land and Business Association

Lord Cameron of Dillington
Farmer
Trustee, Rothamsted Research
Director, Royal Bath and West Society

Lord Giddens
No relevant interests declared

Baroness Howarth of Breckland
No relevant interests declared

Lord Lewis of Newnham
Chair, Veolia Environmental Services Advisory Board

Baroness Parminter
No relevant interests declared

Lord Plumb
Livestock breeder and farmer

Lord Renton of Mount Harry
Partner in Sussex Vineyard

Baroness Scott of Needham Market
No relevant interests declared

Lord Whitty
No relevant interests declared

Lord Williams of Elvel
No relevant interests declared

The following Members of the European Union Committee attended the meeting at which the report was approved:

Lord Boswell of Aynho (Chairman), Lord Bowness, Lord Cameron of Dillington, Baroness Corston, Lord Dear, Baroness Eccles of Moulton, Lord Foulkes of Cumnock, Lord Hannay of Chiswick, Lord Harrison, Lord Maclennan of Rogart, Lord Marlesford, Baroness O'Cathain, Baroness Parminter, Baroness Quin, Baroness Scott of Needham Market, Lord Tugendhat, Lord Wilson of Tillyorn

During consideration of the report the following interests were declared:

Lord Boswell of Aynho (Chairman)

Salaried Officer of the House of Lords (details in Register)
Income is received as a Partner (with wife) from land and family farming business trading as EN & TE Boswell at Lower Aynho grounds, Banbury, with separate rentals from cottages and grazing

Lord Hannay of Chiswick

Member, Advisory Board, Centre for European Reform
Member, British Influence's Forum for the Future of Europe
Chair, Senior European Experts Group

Lord Maclennan of Rogart

Farmer in receipt of monies from the Common Agricultural Policy

Lord Marlesford

Farmer in receipt of monies from the Common Agricultural Policy

A full list of registered interests of Members of the House of Lords can be found at http://www.parliament.uk/mps-lords-and-offices/standards-and-interests/register-of-lords-interests.

Dr Julian Parfitt acted as Specialist Adviser for this inquiry and declared the following relevant interests:

Consultancy work, with previous clients prior to this inquiry including Defra, FDF and WRAP
Member, FUSIONS project Advisory Board

APPENDIX 2: LIST OF WITNESSES

Evidence is published online at www.parliament.uk/hleud and available for inspection at the Parliamentary Archives (020 7219 5314).

Evidence received by the Committee is listed below in chronological order of oral evidence session and in alphabetical order. Those witnesses marked with * gave both oral evidence and written evidence. Those marked with ** gave oral evidence and did not submit any written evidence. All other witnesses submitted written evidence only.

Oral evidence in chronological order

*	(QQ 1–14)	Department for Environment, Food and Rural Affairs (Defra)
*	(QQ 15–24)	National Farmers' Union (NFU)
*	(QQ 25–38)	British Retail Consortium (BRC)
*		Food and Drink Federation (FDF)
*	(QQ 39–48)	Feeding the 5,000 (soon to be known as Feedback)
**		World Wide Fund for Nature (WWF UK)
*	(QQ 49–64)	Sodexo
**	(QQ 65–72)	FareShare
**		Keep Britain Tidy (KBT)
**		Sustain
*	(QQ 73–84)	Industry Council for research on Packaging and the Environment (INCPEN)
**		LINPAC Packaging
**		Marks & Spencer (INCPEN Board member)
*		Packaging Federation
**	(QQ 85–107)	Netherlands Nutrition Centre Foundation (NNCF)
**	(QQ 108–122)	Dutch Ministry of Infrastructure and the Environment
**	(QQ 123–143)	Dutch Ministry of Economic Affairs
**	(QQ 144–164)	FUSIONS (Food Use for Social Innovation by Optimising Waste Prevention Strategies)
**	(QQ 165–170)	Sustainable Food Alliance (SFA)
**	(QQ 171–188)	The Dutch National Food Bank
**		The Hague Food Bank
*	(QQ 189–210)	Waste and Resources Action Programme (WRAP)
**	(QQ 211–222)	Tesco
*	(QQ 223–234)	Waitrose
*	(QQ 235–244)	Environmental Services Association (ESA)
**		SITA UK

**		Veolia
*	(QQ 245–255)	Anaerobic Digestion and Biogas Association (ADBA)
**		Institute for European Environmental Policy
**	(QQ 256–269)	Café St Honoré (SRA member)
**		Nando's
**		Specialist Waste Recycling
**		Sustainable Restaurant Association (SRA)
**	(QQ 270–280)	Groceries Code Adjudicator (GCA)
**	(QQ 281–293)	Professor Tim Benton, University of Leeds
**		Professor Charles Godfray, University of Oxford
*	(QQ 294–308)	Department for Environment, Food and Rural Affairs (Defra)

Alphabetical list of all witnesses

*	Anaerobic Digestion and Biogas Association (ADBA) (QQ 245–255)
	ARAMARK
**	Professor Tim Benton, University of Leeds (QQ 281–293)
*	British Retail Consortium (BRC) (QQ 25–38)
**	Café St Honoré (SRA member) (QQ 256–269)
	The Catering Equipment Suppliers' Association (CESA)
	Copa-Cogeca
*	Department for Environment, Food and Rural Affairs (Defra) (QQ 1–14)
*	Department for Environment, Food and Rural Affairs (Defra) (QQ 294–308)
**	Dutch Ministry of Economic Affairs (QQ 123-143)
**	Dutch Ministry of Infrastructure and the Environment (QQ 108–122)
**	The Dutch National Food Bank (QQ 171–188)
*	Environmental Services Association (ESA) (QQ 235–244)
**	FareShare (QQ 65–72)
*	Food and Drink Federation (FDF) (QQ 25–38)
*	Feeding the 5,000 (soon to be known as Feedback) (QQ 39–48)
**	FUSIONS (Food Use for Social Innovation by Optimising Waste Prevention Strategies) (QQ 144–164)
**	Professor Charles Godfray, University of Oxford (QQ 281–293)
	Greater Manchester Waste Disposal Authority
	Paul Gregory, Food Solutions

** Groceries Code Adjudicator (GCA) (QQ 270–280)
** The Hague Food Bank (QQ 171–188)
* Industry Council for research on Packaging and the Environment (INCPEN) (QQ 73–84)
** Institute for European Environmental Policy (QQ 245–255)
Institution of Mechanical Engineers (IME)
** Keep Britain Tidy (QQ 65–72)
** LINPAC Packaging (QQ 73–84)
** Marks & Spencer (INCPEN Board member) (QQ 73–84)
Morrisons
** Nando's (QQ 256–269)
* National Farmers' Union (NFU) (QQ 15–24)
** Netherlands Nutrition Centre Foundation (NNCF) (QQ 85–107)
North London Waste Authority (NLWA)
* Packaging Federation (QQ 73–84)
Bob Salmon, Food Solutions
Shropshire Council
** SITA UK (QQ 235–244)
* Sodexo (QQ 49–64)
** Specialist Waste Recycling (QQ 256–269)
** Sustain (QQ 65–72)
** Sustainable Food Alliance (SFA) (QQ 165–170)
** Sustainable Restaurant Association (SRA) (QQ 256–269)
** Tesco (QQ 211–222)
Unilever Food Solutions
** Veolia (QQ 235–244)
* Waitrose (QQ 223–234)
* Waste and Resources Action Programme (WRAP) (QQ 189–210)
** World Wide Fund for Nature (WWF UK) (QQ 39–48)

APPENDIX 3: CALL FOR EVIDENCE

The EU Sub-Committee on Agriculture, Fisheries, Environment and Energy of the House of Lords, chaired by Baroness Scott of Needham Market, is conducting an inquiry into *The EU's contribution to food waste prevention*. The Sub-Committee seeks evidence from anyone with an interest.

Written evidence is sought by 27 September 2013. Public hearings will be held over the period October-December 2013. The Committee aims to report to the House, with recommendations, in late March 2014. The report will receive responses from the Government and the European Commission, and may be debated in the House.

The Commission recommended in its Roadmap to a Resource Efficient Europe, in 2011, that disposal of edible food waste should have been halved by 2020. The European Parliament has recommended that the Commission take practical measures towards halving food waste by 2025. We recommended bio-waste reduction targets in our report on *Innovation in EU Agriculture* in 2011, alongside a new "systems" approach to agriculture involving greater interaction throughout the food supply chain.

In order to take its policy forward, the Commission plans to publish a Communication in early 2014 on sustainable food, in advance of which it issued a consultation paper on 8 July 2013.

We will seek to establish a common understanding of the issue, identify and scrutinise proposed EU-level solutions, consider their implications and identify any areas for further research.

We will make policy recommendations to the Commission and Member States, including the UK, accordingly.

Our focus is on prevention as it sits at the top of the waste hierarchy[317], but we would welcome comments relating to management of waste further down the waste hierarchy, including the conversion of food waste to energy

The Sub-Committee seeks evidence on any aspect of this topic, and particularly on the following questions:

The issue

(1) Why is food waste a significant issue to be tackled, and how does it fit in the EU's wider objectives of sustainable, inclusive and smart growth?

(2) How would you define food waste and how feasible is it to monitor such food waste throughout the food chain across the EU?

The causes

(3) What do you see as the principal causes of food waste in the EU at each stage of the food supply chain? How significant a role does EU regulation and guidance—across the EU's policies—play in hindering food waste prevention and effective management?

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[317] The waste hierarchy, as defined in the EU's Waste Framework Directive (2008/98/EC), starts with waste prevention and then moves down to: preparing for re-use; recycling; other recovery (e.g. energy recovery); and, finally, waste disposal.

Tackling food waste: the EU's role and best practice

(4) What economic drivers are already in place to prevent food waste? How can EU regulation and guidance amplify those drivers? What further EU policy changes would be desirable? How can such developments be coordinated with efforts at the local, national and international levels?

(5) How realistic do you consider the Commission's aspiration to halve food waste by 2020 to be, and how helpful could a binding target be in encouraging Member States to intensify their actions in this area? How could such a target be effectively applied?

(6) What best practice at national, regional and local level can be identified and shared by others? What evidence is there across Member States of the success of a systems approach to food waste prevention, involving interaction throughout the food supply chain?

The implications

(7) What are the economic, social and environmental implications of food waste prevention? What economic implications, for example, arise for waste management businesses and for those throughout the food supply chain who may face reduced demand for food? Have resource efficiency implications been given sufficient attention? Could food waste prevention have an impact on food re-distribution schemes?

Research and innovation

(8) What additional research and innovation would be helpful to support the development of food waste prevention and management policy? Are there any innovative approaches to communication that could assist with the prevention of food waste?

APPENDIX 4: LIST OF ABBREVIATIONS

AD	anaerobic digestion
ADBA	Anaerobic Digestion and Biogas Association
BOGOF	buy one, get one free
BRC	British Retail Consortium
BSE	bovine spongiform encephalopathy
CAP	Common Agricultural Policy
CESA	Catering Equipment Suppliers' Association
Copa-Cogeca	pan-EU farming association
Defra	Department for Environment, Food and Rural Affairs
EIP	European Innovation Partnership
ESA	Environmental Services Association
EU	European Union
EUROSTAT	EU Statistical Office
FAO	Food and Agriculture Organisation
FDF	Food and Drink Federation
FIC	Food Information for Consumers
FUSIONS	Food Use for Social Innovation by Optimising Waste Prevention Strategies
GCA	Groceries Code Adjudicator
GSCOP	Groceries Supply Code of Practice
IME	Institution of Mechanical Engineers
INCPEN	Industry Council for Research on Packaging and the Environment
IVC	in-vessel composting
KBT	Keep Britain Tidy
LFHW	Love Food Hate Waste
NFU	National Farmers' Union
NGO	non-governmental organisation
NLWA	North London Waste Authority
NNCF	Netherlands Nutrition Centre Foundation
NOK	Norwegian Krone
PAP	processed animal protein
POs	Producer Organisations
PWP	Packaging and Waste Packaging
REFIT	Regulatory Fitness and Performance

SFA	Sustainable Food Alliance
SRA	Sustainable Restaurant Association
US	United States
VAT	value added tax
WP	work package
WRAP	Waste and Resources Action Programme
WWF UK	World Wide Fund for Nature

APPENDIX 5: WRAP INITIATIVES AND PROGRAMMES

Courtauld Commitment

The Courtauld Commitment is a voluntary agreement that was launched in 2005. Its aim is to improve resource efficiency and reduce waste within the UK grocery sector.

The agreement is funded by Westminster, Scottish, Welsh and Northern Ireland governments and is delivered by WRAP. Responsible for the agreement, WRAP works in partnership with retailers, brand owners, manufacturers and suppliers who sign up and support the delivery of targets.

The agreement is currently in its third phase, 'Courtauld Commitment 3', with each phase covering a specific period of time and particular focus:

Courtauld Commitment 1 (2005-2009)

This phase focused on bringing food waste on the agenda, and looked at new solutions and technologies so that less food and primary packaging ended up as household waste. Over Phase 1, 1.2 million tonnes of food and packaging waste was prevented, which is equivalent to a saving of £1.8 billion and 3.3 million tonnes of CO_2. Examples of efforts made included The Co-operative introducing food storage tips on fresh produce bags and grocery retailers achieving major reductions in Easter egg packaging.

Courtauld Commitment 2 (2010-2012)

Phase 2 built on Phase 1, with a continued aim of reducing primary packaging and household food and drink waste, but additionally included secondary and tertiary packaging, and supply chain waste. This phase focused more on reducing the carbon impact of packaging. During Phase 2, 1.7 million tonnes of waste was reduced, with a monetary value of £3.1 billion and a reduction of 4.8 million tonnes of CO_2. Examples of efforts during this phase included Asda increasing the shelf life of over 1,500 products and the introduction of the Heinz Beanz reclosable 'fridge pack'.

Courtauld Commitment 3 (2013-2015)

The current phase hopes to deliver sustainable growth, save money and reduce environmental impact by focusing further on food and drink waste reduction. It will aim to achieve this by reducing food waste (such as in the home and supply chain), reducing retail and manufacturing waste, and improving packaging design.

Phase 3 has three targets:

- Reduce household food and drink waste by 5% by 2015;
- Reduce traditional grocery ingredient, product and packaging waste in the grocery supply chain by 3% by 2015; and
- Improve packaging through the supply chain to maximise recycled content as appropriate, improve recyclability and deliver product protection (to reduce food waste).

Achieving the above targets during this phase could deliver a reduction of 1.1 million tonnes of waste, save £1.6 billion and 2.9 million tonnes of CO_2.[318]

'Fresher for Longer' Campaign

WRAP's 'Fresher for Longer' behaviour change campaign in 2013 was aimed at explaining to consumers the function of packaging. It achieved this by bringing together retailers, industry, local authorities and the public. The campaign involved in-store activity showcasing best practice on packaging information to help customers understand and use date labels, get the best information on food storage, and advice on the best packaging to keep food fresher for longer.[319]

The Hospitality and Food Service Agreement

The Hospitality and Food Service Agreement is a voluntary agreement established by WRAP to support the sector in reducing waste and recycling more. According to research by WRAP, more than 1.3 billion meals are wasted in the UK's hospitality and food service sector every year.

The Agreement is made up of signatories from different sized organisations (whether large or small), and range from sector wholesalers/distributors to trade bodies.

WRAP has worked closely with interested and relevant organisations and individuals to determine the targets for the Agreement. These targets are owned by WRAP and collectively delivered by signatories. WRAP delivers this Agreement across the UK through its national programmes, including Zero Waste Scotland.

The Agreement's targets:

- Prevention target: Reduce food and associated packaging waste arising by 5% by the end of 2015. This will be against a 2012 baseline and will be measured by CO2 emissions.
- Waste management target: Increase the overall rate of food and packaging waste being recycled, sent to AD or composted to at least 70% by the end of 2015.[320]

Product Sustainability Forum

The Product Sustainability Forum is a collaboration of organisations made up of grocery and home improvement retailers and suppliers, academics, NGOs and UK Government representatives. It provides a platform for these organisations to work together to measure, improve and communicate the environmental performance of the grocery and home improvement products. WRAP provides the Secretariat for the forum.[321]

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318 *The Courtauld Commitment*, WRAP

319 WRAP

320 *The Hospitality and Food Service Agreement*, WRAP

321 *Product Sustainability Forum*, WRAP

APPENDIX 6: SUMMARY OF FUSIONS

What is FUSIONS?

FUSIONS is an EU-funded project looking at food waste prevention. It is a four year project (August 2012 to July 2016), and is 100% funded by the European Commission's Framework Programme Seven programme. The project has a total budget of €4 million, and WRAP is receiving €0.42 million to undertake its share of the project.

What is its purpose?

FUSIONS aims to contribute to achieving a resource efficient Europe by significantly reducing EU food waste. It will achieve this through a comprehensive and experienced European partnership covering key actors across the food supply chain, including regulatory, business, NGOs and knowledge institutes, all with strong links to consumer organisations.

FUSIONS will establish a tiered European Multi-stakeholder Platform to generate a shared vision and strategy to reduce food waste across the supply chain through social innovation: new ideas (products, services and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations.

The overall aims of the project are to contribute significantly to:

- the harmonisation of food waste definitions and monitoring;
- the feasibility of socially innovative measures for optimised food use in the food chain; and
- the development of a common food waste policy for EU-28.

Utilising the policy and behavioural change recommendations from the delivery of the key objectives, the FUSIONS European Multi-stakeholder Platform will enable, encourage, engage and support key actors across Europe in delivering a significant reduction in food waste and the food chain's resource inputs by 2020.

What specific projects is FUSIONS delivering?

There are six work packages (WP):

- WP 1: data and information (definition and methodology)
- WP 2: multi-stakeholder platform
- WP 3: recommendations for a common EU food waste policy
- WP 4: feasibility studies
- WP 5: dissemination
- WP 6: management of the project

WRAP is the lead partner for WP 4 (feasibility studies), but is also contributing to the work of all six WPs.

Who else is a member of the FUSIONS project?

There are 21 project partners from 12 countries: Austria, Denmark, Finland, France, Germany, Greece, Hungary, Italy, the Netherlands, Norway, Turkey and the UK.

There are three UK partners: WRAP, the Institute of Food Research and Feeding the 5,000.[322]

[322] WRAP further supplementary

APPENDIX 7: SUMMARY OF FOOD WASTE DATA TYPES AND SOURCES

Data type and scale	Main purpose	Comment in relation to evidence received
EU level food waste data	Compile EU level estimates on the scale of the issue (for example, 90 million tonnes of total food waste estimated for EU-27) across the whole supply chain. The results may offer a potential baseline for monitoring the pan-European food waste reduction target.	Data were compiled from a combination of detailed 'in country' studies and assumptions were applied to existing EUROSTAT reporting categories, which are not specifically designed to report food waste tonnages separately. Key challenges were: inconsistent methodologies and definitions; uneven measurement along the food supply chain; and a lack of clarity on 'by-products' within the manufacturing sector.[323]
Sectoral surveys of non-household sources	Monitor waste in the following sectors: agricultural; food and drink manufacturing; retail and wholesale; and hospitality and food service.	There are no estimates available from agriculture and this stage was not included within the 2010 EU baseline. The UK has produced sectoral data for all sectors apart from pre-farm gate.[324] EUROSTAT data has been the main source of food and drink sector estimates in the EU. For other sectors there has been greater reliance on sectoral surveys and estimation exercises.[325]
Data generated by voluntary agreements within sectors	Used to monitor collective progress towards sectoral targets. Data from participating businesses not publicly disclosed.	The Courtauld Commitment and Hospitality and Food Service Agreement were UK examples cited widely by witnesses (see Appendix 5). These data sources were more relevant to larger firms from within the sectors, where signatories supply data to WRAP.

[323] *Preparatory study on food waste across EU 27*, BIO Intelligence Service, a report commissioned by the European Commission, October 2010

[324] WRAP supplementary

[325] *Preparatory study on food waste across EU 27*, BIO Intelligence Service, a report commissioned by the European Commission, October 2010

Data type and scale	Main purpose	Comment in relation to evidence received
National household food waste data and monitoring programmes	Such programmes aim to assist: waste prevention programme design; identification of waste types and key consumer messages; the monitoring of progress; the planning of treatment capacities for AD;[326] and planning for new waste treatment technologies within the waste sector.[327]	Data derived from operational sources, such as UK's WasteDataFlow,[328] are used to quantify totals for source separated waste streams, but mixed waste streams containing food waste required detailed compositional analyses and few such studies have been conducted across the EU.[329] Extensive research commissioned by WRAP has used an array of research methods to identify drivers and behaviours (such as diaries, surveys, linked to waste analysis). Generally, the more contextual data is required to inform waste prevention, the more complex the research and data collection. The Netherlands Food Waste Monitor provided an example of national monitoring at different food supply chain stages.[330]
Data generated by voluntary reporting with full public disclosure	Data, reported for each participating business, are used to monitor progress within the business for internal and external purposes.	Examples of voluntary reporting with full public disclosure included retail sector data from the Norwegian project ForMat.[331] A similar development in the UK will result in major grocery retailers disclosing food waste arisings from 2015.[332]
Individual company/ institution food waste initiatives	Mainly used to monitor progress for internal monitoring purposes.	Examples were given from within the food service and retail sectors. The SFA in the Netherlands provided examples of self-reporting systems for food waste amongst contract caterers in the Netherlands.[333]

[326] Q 249

[327] Q 240

[328] Defra

[329] *Preparatory study on food waste across EU 27*, BIO Intelligence Service, a report commissioned by the European Commission, October 2010

[330] *Food waste*, Wageningen University

[331] Q 123, Feeding the 5,000

[332] *A Better Retailing Climate: Driving Resource Efficiency*, BRC, January 2014

[333] Q 165

Data type and scale	Main purpose	Comment in relation to evidence received
Innovations to aid food waste prevention and measurement	Developed to facilitate waste prevention and measurement close to the point at which it may or does arise, such as in commercial or household kitchens.	Examples included Unilever's 'Wise up on Waste' mobile phone application for chefs; [334] 'tooskee.com' and 'leanpath.com'.[335]
Forecasting of demand: food service; and within retail	Improve business efficiency through better matching of supply and demand within food supply chains.	The importance of demand forecasting as one factor in pushing down waste and surplus from food supply chains was reflected in evidence from the food service sector, retailers and producers alike.[336]

[334] NFU

[335] IME

[336] Q 33, Q 272, Q 287

APPENDIX 8: LIST OF FOOD WASTE INITIATIVES AND PROGRAMMES ACROSS THE EU

The following table lists various food waste initiatives and programmes across the EU in 2010, based on data collected for a report commissioned by the European Commission.[337] Although this information was collected in October 2010, it is the best (and most recent) collection of EU-wide initiatives to date.

Not all of the initiatives identified in 2010 have been listed, but rather, a selection from across the EU. Initiatives in the UK and the Netherlands have not been included, as these are referenced extensively throughout the report. It should be noted that UK and Dutch initiatives were highlighted repeatedly in the data collected (and were almost the sole countries as regards research programmes).

Country and initiative name	Initiative description	Type of actor responsible for the initiative
France/Belgium: Green Cook *[awareness campaign]*	Campaign linking food waste to health, social actions and economic development. Actions to focus on the four main food consumption venues: home; restaurant (including at work); school canteen; and supermarket.	NGO (Espace Environment)
Portugal: Menu Dose Certa ("the right size") *[awareness campaign]*	Created for restaurants by a Porto waste management company, LIPOR, with a view to serve portions that match what people eat. If a restaurant meets the criteria, they receive the campaign's seal.	Regional authority
Belgium: Poubelle.org ("bin.org") *[awareness campaign]*	Fake supermarket website that pretends to sell packaged food (waste). Provides tips and explanations of food waste production and options for sustainable consumption.	NGO (Réseau Idée)
Hungary: Zero Waste Programme *[awareness campaign]*	Campaign geared towards a range of stakeholders, with a website providing tips for waste prevention and reduction.	NGO (Waste Prevention Alliance (HuMuSz))
Ireland: Stop Food Waste *[awareness campaign]*	Launched by the National Waste Prevention Programme, this includes information for local authorities to disseminate to households.	National Authority

[337] *Preparatory study on food waste across EU 27*, BIO Intelligence Service, a report commissioned by the European Commission, October 2010

Country and initiative name	Initiative description	Type of actor responsible for the initiative
Denmark: Food Bank *[food redistribution]*	Non-profit organisation with support from the Ministries of Social Security and the Interior. Distributes food from food producers, retail and social organisations.	NGO (Food Rebanken)
Spain: Collaboration between the Catalan Waste Agency and the Barcelona Food Bank *[food redistribution]*	The Catalan Waste Agency collaborates intensively with the Barcelona Food Bank, providing technical and economic support.	Multi-stakeholder (Catalan Waste Agency and Barcelona Food Bank)
Italy: Buon Fine ("to a fair end") *[food redistribution]*	Every day, cooperative shops collect products which can no longer be sold due to damaged packaging or an expiration date 2 days later. These products are then given to non-profit organisations.	Retailer (Cooperative)
Austria: Social supermarkets *[food redistribution]*	Organisations gather and sell fresh food that would otherwise be wasted. Food is sold for one-third of the original price.	Business
France: Programme local de prevention des déchets ("local waste prevention programme") *[information tool]*	Guide for local governments on waste prevention programmes.	Local authority
Belgium: Eviter le gaspillage alimentaire, cela commence au magasin ("avoiding food wastage starts while shopping") *[information tool]*	Brochure on food wastage.	Research centre (L'Observatoire bruxellois de la Consommation durable)
Ireland: Calling Time on Waste *[information tool]*	A guide on resource efficiency in the bar trade, including advice on food waste prevention.	National authority

Country and initiative name	Initiative description	Type of actor responsible for the initiative
Belgium: Anti-waste workshops *[training programme]*	Cooking workshops for the local community that highlight techniques and benefits of food waste reduction.	Local authority
Sweden: Eurest restaurant food waste campaign *[waste measurement]*	150 units participating in efforts to quantify food waste, publicising the results to staff and customers, explaining the impacts of food waste and what can be done about it.	Food service (Eurest)
France: Opération 'Familles-Témoins' ("test families") *[waste measurement]*	24 families tried to reduce their waste production by following specific rules for 14 weeks. Rules included: composting, choosing the correct packaging, avoiding disposable products, repairing as much as possible and weighing their waste.	Local authority
Ireland: Green Business Programmes *[waste measurement]*	Offers businesses Resource Efficiency Assessments, including food waste, energy and water.	National authority