

European Commission DG ENV

GUIDELINES ON THE PREPARATION OF FOOD WASTE PREVENTION PROGRAMMES

As part of the study on the evolution of (bio-) waste generation/prevention and (BIO-) waste prevention indicators

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1. CONTEXT

1.1. HOW TO USE THESE GUIDELINES

This document is aimed primarily at national policymakers developing National Waste Prevention Programmes (NWPP) as required by the 2008 Waste Framework Directive. It can also support policymakers in developing national strategies for biodegradable municipal waste, required under the Landfill Directive.

Many actors are involved in food waste prevention, however, and this document aims to be a useful tool for waste management organisations, businesses, institutions, local authorities and environmental protection agencies as well. It adds to the 2009 Waste Prevention Guidelines, focusing on the opportunities for waste prevention in the food waste stream. It may also be relevant for policymakers to look at the 2011 Methodological Guidance Note on preparing waste management plans.¹

These guidelines cover the European policy framework for bio-waste and more specifically food waste, approaches to measurement of food waste, target setting, and prevention strategies. A sector-based approach to prevention is proposed, focusing on the key producers of food waste and the different prevention techniques suitable to address the causes of food waste in each sector. Key sectors addressed are local authorities, households, the hospitality industry, the retail supply chain, businesses and institutions (such as schools and hospitals).

1.2. WHAT IS WASTE PREVENTION?

The definition of waste prevention relevant for the development of National Waste Prevention Programmes is as stated in the 2008 Waste Framework Directive:

‘Prevention’ means measures taken before a substance, material or product has become waste, that reduce:

- (a) The quantity of waste, including through the reuse of products or the extension of the life span of products
- (b) The adverse impacts of the generated waste on the environment or human health;
or
- (c) The content of harmful substances in materials or products²

¹ ETAGIW Consortium (2011) *Preparing a Waste Management Plan: A Methodological Guidance Note*

² European Commission (2008) Waste Framework Directive, Article 3(12)

In accordance with this definition, the home composting of bio-waste is not considered waste prevention. In relation to food waste specifically, waste prevention means buying only what you need and making the most of what you buy.

1.3. SCOPE OF BIO-WASTE AND FOOD WASTE

The 2008 Waste Framework Directive defines bio-waste as “biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises, and comparable waste from food processing plants”. It excludes forestry residues, manure, natural textiles, paper and related products, as well as by-products of food production that never become waste.³

Food waste may be raw or cooked and includes edible materials such as stale bread or potato skins as well as inedible materials like banana skins or egg shells. Food loss may occur before, during or after meal preparation in the household, as well as food discarded during manufacturing, distribution, retail and food service activities.

Furthermore, food waste can be distinguished into avoidable and non-avoidable waste. The WRAP report on household food and drink waste in the UK⁴ defines avoidable food waste as discarded edible food and drink, such as milk, lettuce, fruit juice, meat (excluding bones, skin, etc.). Food and drink that some people eat and others do not, like bread crusts, or that can only be eaten when a food is prepared in a certain way, like potato skins, is not considered as avoidable. Unavoidable waste is then defined as waste, which is not edible under normal circumstances, such as meat bones or egg shells.

Green waste refers to garden and park waste, such as grass cuttings, hedge clippings and other plant trimmings. Paper waste is excluded from the scope, in accordance with the Waste Framework Directive definition. ‘Smart gardening’ comprises techniques to reduce the amount of grass, leaves and twigs generated by a park or garden, for example the selection of slow growing plants or the reduced use of fertilizers. A positive example is the ‘Cycle Gardening’ initiative by VLACO in Flanders.

When green waste is incinerated⁵ or composted the environmental benefits from incinerating or composting green waste can surpass the environmental impacts of green waste generation. Therefore green waste prevention or ‘smart gardening’ are not considered to be priority areas for Member State action. In any case, the positive environmental impact of smart gardening is rather small as compared to the positive

³ European Commission (2008) Green paper on the management of the management of bio-waste in the European Union - SEC(2008) 2936

⁴ WRAP 2009, Household Food and Drink Waste in the UK. Accessed on the 04.08.2011 at: http://www.wrap.org.uk/downloads/Household_food_and_drink_waste_in_the_UK_-_report.5c54ed71.8048.pdf

⁵ Sander, K. (2008): Climate protection potentials of EU recycling targets. Ökopol, Hamburg. <http://www.eeb.org/publication/documents/RecyclingClimateChangePotentials.pdf>.

effects of food waste prevention, so that smart gardening is not further considered in these guidelines.

1.4. HOW IS BIO-WASTE CURRENTLY MANAGED?

As food waste is currently managed together with other bio-waste types, we look at current bio-waste management in this section. Between 118 and 138 million tonnes of bio-waste are generated each year in the EU, of which 88 million are estimated to be part of municipal waste⁶. Bio-waste is expected to increase approximately 10% by 2020.⁷ An estimated 30% to 40% of the mass of municipal solid waste produced in the EU-27 is bio-waste. The Irish National Strategy on bio-waste estimates that up to 60% to 70% of MSW generated in the EU-27 is biodegradable, more than half of which is currently landfilled.

Varying treatment options exist for bio-waste, notably composting, anaerobic digestion, landfilling, incineration, and mechanical and biological treatment. In 2008, 17% of waste treated in the EU-27 was composted, i.e. transformed into an organic fertiliser; between 1995 and 2008 annual increases have been observed in the quantity of municipal waste composted⁸. There is a strong differentiation between MS in terms of treatment approaches:

- Countries dependent on incineration of waste diverted from landfills, coupled with a high level of material recovery and strong strategies promoting biological treatment of waste
- Countries with high material recovery rates and very high composting rates, but very little incineration
- Countries dependent on landfilling, where a lack of alternatives makes diversion difficult⁴

For example, less than 20% of bio-waste is landfilled in Austria, the Netherlands and Denmark, while more than 80% is landfilled in Ireland, Spain and the UK.

Nevertheless, the amounts of landfilled bio-waste are expected to drop by 38% from 35.7 Mt in 2008 to 15.1 Mt in 2020. This bio-waste is expected to be diverted from landfill to composting, incineration, mechanical and biological treatment and anaerobic digestion⁵.

⁶ European Commission (2010) Commission communication on future steps in bio-waste management in the European Union

⁷ EC (2010) Commission staff working document on the future steps in bio-waste management in the European Union

⁸ EC (2011) Commission staff working document on the Thematic Strategy on the Prevention and Recycling of Waste

<http://ec.europa.eu/environment/waste/pdf/Commission%20Working%20Doc.pdf>

1.5. CHALLENGES TO EFFICIENT FOOD WASTE MANAGEMENT

Food waste, in particular, presents specific challenges and opportunities. It represents a comparatively large portion of environmental impacts, making up 3% of greenhouse gas emissions and nearly twice the annual household usage of water in the UK, for example⁹. Emissions caused by food waste are expected to rise by 40% in the EU by 2020 given increases in population and disposable income, without any additional policy intervention on food waste¹⁰.

Yet, around 60% of the household food waste could have been avoided, according to WRAP estimations. Causes for unnecessary household food waste are particularly diverse, ranging from lack of awareness of the quantity of food waste generated individually, and the financial benefits of using purchased food more efficiently, to poor shopping planning, lack of knowledge on how to best store food or to make the most of leftovers, and confusion over date labelling (such as 'sell by', 'use by' and 'best before').

Opportunities to prevent food waste exist across the food cycle and this document will highlight some measures to address food waste in each sector.

1.6. POLICY CONTEXT

The 2008 Waste Framework Directive (WFD) sets waste prevention at the top of the 'waste hierarchy' and requires MS to develop National Waste Prevention Programmes by 2013. MS are also required to take measures to encourage the separate collection of bio-waste with a view to the composting and digestion of bio-waste, but the Directive does not set prevention targets.

The 2010 Commission Communication on bio-waste identifies potential environmental and financial benefits of €4.1 billion through moderately ambitious bio-waste prevention policies. Around 29 million tonnes of CO₂ equivalent furthermore could be saved due to bio-waste prevention¹¹. Member States are developing the WFD-required National Waste Prevention Programmes and may take advantage of this untapped potential of environmental and financial benefits by addressing food waste strategically as part of these programmes.

The Landfill Directive sets diversion targets for biodegradable waste and requires MS to submit national strategies for biodegradable municipal waste management to the

⁹ WRAP (2011) *The Water and Carbon Footprint of Household Food Waste in the UK* www.wrap.org.uk/downloads/Water_and_Carbon_Footprint_report_Final_23_Mar_11.a40b4331.10610.pdf

¹⁰ BIO Intelligence Service et al (2010) Preparatory study on food waste in the EU27

¹¹ European Commission (2010) Commission communication on future steps in bio-waste management in the European Union

European Commission, describing how they will meet landfill diversion targets and improve biodegradable municipal waste management.

The 2010 Commission Communication on future steps in bio-waste management in the European Union requires that MS draw up “waste management plans” (Art. 28 of the WFD) in line with the waste hierarchy (Art. 4 (1)) by December 2010. It underlines that MS must ensure separate collection and environmentally safe treatment of bio-waste (Art. 22). The Commission calls on the MS to take “clear and measurable steps” to increase bio-waste prevention and to define “appropriate” bio-waste prevention objectives (p. 9).

2. GENERAL APPROACH TO FOOD WASTE PREVENTION

2.1. PURPOSE OF FOOD WASTE PREVENTION GUIDELINES

The goal of national waste prevention programmes is to decouple economic growth and the environmental impacts linked with the generation of waste. Goals should be to stabilise waste generation in the first instance and to reduce per capita waste generation in the longer term.

As outlined in the scope, these guidelines will focus on food waste, rather than bio-waste in general, given the greater environmental benefits of targeting this area.

These guidelines suggest the development of a national strategy, and steps in the development of such a strategy are outlined in chapter 3. This chapter presents an approach to behaviour change for food waste prevention, and describes prevention measures by waste generating sector.

2.2. BEHAVIOUR CHANGE

These guidelines identify behaviour change as a key vehicle for food waste prevention. There are diverse causes of food waste that can often be linked to specific national circumstances, for example cultural norms about using leftovers or the acceptance of “doggie bags” from restaurants, or climatic impacts on the generation of green waste. Conducting MS-level research on the causes of food waste can be a good starting point for the development of a national approach to food waste prevention.

Public authorities, businesses and citizens are all implicated in bringing about behaviour change. These guidelines suggest a sector-based approach to food waste prevention, with tools and policies targeted to the circumstances in which food waste arises to maximise efficacy and to bring together the key stakeholders in each area. The overall aim is to shift norms in the way food in particular is produced, distributed and managed to prioritise resource efficiency.

The behaviour change approach can be broken down in the following way:

- **Motivate:** begin by addressing the values that drive behaviours. Motivating values that laud an efficient use of resources may have a more permanent and wide-reaching impact beyond the provision of information and incentives. “Values are seen as more central to the self, transcend objects and situations, and determine attitudes and behaviour”¹². Altruism and environmental identity, which arises from personal perception and interaction with the

¹² WWF (2008) *Weathercocks and signposts*

natural environment, are suggested as values that particularly motivate environmentally conscious behaviour¹³. Awareness-raising, including demonstration of environmental impacts of current behaviour and benefits of behaviour change, can then be tackled. A report by WWF proposes eight practical steps to concretely address and activate motivational values; examples include to “emphasise intrinsic goals in environmental communications” or to “begin to deploy a broader vocabulary of values in policy debates” (see the report for further information¹⁴).

- Enable: provide the information, training, expertise, practical alternatives and infrastructure to make change possible¹⁵.
- Engage: involve people on a community level, develop pilot projects, take advantage of existing networks, link experts, key stakeholders and thought leaders through discussion forums.
- Exemplify: lead by example by demonstrating how resource efficiency works in practice in different levels of public administration, through green procurement, use of environmental management systems, etc. The sharing of best practices in different sectors can also be helpful here.
- Encourage: stimulate resource efficient behaviour through investment grants, economic incentives, price signals, taxation, penalties, benchmarking and competitive pressure.

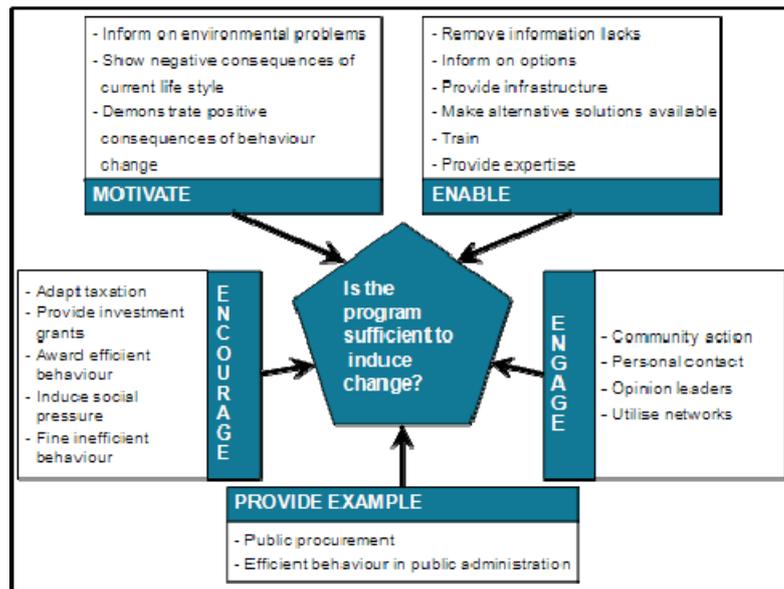
While awareness-raising and the provision of information is crucial, food behaviours are often entrenched at an early age, and an effective approach to behaviour change will begin by targeting young populations.

¹³ WWF (2008) *Weathercocks and signposts*

¹⁴ Ibid.

¹⁵ Defra (2005) *Changing behaviour through policy making*

Figure 1: Approach to food waste prevention



Thus, behaviour change needs to be approached from a number of angles, as illustrated below. Establishing values that advocate an efficient use of resources may inform behaviour in a cross-cutting way and have broad potential environmental benefits. This is complemented by a practical, hands-on approach to the principle sectors where bio-waste and food waste in particular is generated.

2.3. SECTOR BASED APPROACH

The 2008 Waste Framework Directive requires MS to take into account the whole lifecycle of products and materials when designing waste prevention programmes. With this in mind, an approach to prevention that targets the different producers of food waste has been developed.

Food waste is generated during food production, the distribution and sale of food products, the preparation and serving of food in commercial and institutional environments, as well as in households through the discard of uneaten food.

The following key sectors can be identified for targeted action on food waste:

- Food manufacturing (and processing)
- Food distribution and retail
- The food service sector (restaurants, hotels, catering, cafeterias)
- Businesses and institutions (businesses, schools, hospitals, public administrations)
- Households

Several MS have adopted a sectoral approach to waste prevention, notably Ireland and Finland. Agricultural food waste is not covered by these guidelines as it is outside the scope of bio-waste as defined in the waste framework directive and as agricultural waste prevention is a field on its own.

■ Food manufacturing

Food waste generated in the manufacturing sector is considered to be predominantly inedible, though robust data in this sector is scarce, often linked to business competitiveness.

Measures to address food waste in this sector should first aim to engage relevant actors. Industry federations, trade shows, conferences and trade journals can provide good opportunities for the distribution of awareness materials, prevention guidelines, to draw attention to further support tools, and to enlist participants in pilot efficiency projects.

Enabling measures include the provision of a helpline and online tools, such as GreenBusiness.ie, which provides waste, water and energy audit tools, case studies, and nationwide resource efficiency workshops. Infrastructure for the separate collection of bio-waste furthermore enables more accurate tracking of food waste generation, also allowing businesses to benchmark their performance over time and against competitors. Waste measurement in addition can enable the development of resource efficiency assessments (in conjunction with experts or self-assessment) and the creation of company-wide action plans.

Research investment can provide “encouragement”, developing by-product or feed uses for recurrent food wastes or designing packaging to increase food longevity for example.

■ Food distribution and retail

Food waste in the retail supply chain is often linked to stock management, particularly in dealing with perishable products nearing their sell by date, and marketing standards, where aesthetic issues or packaging defects render edible products unsalable.

Efficiency gains in the retail supply chain, leading to the faster delivery of products and thus longer lifetimes in the retail and home environment, are possible and have been evidenced recently by Asda Supermarkets in the UK.¹⁶

Technologies enabling retailers to anticipate demand more accurately can support better stock management and food waste minimisation. ‘Smart shelves’ can indicate when stock levels are low and when products are nearing their sell-by dates. Supermarket loyalty cards track product purchases and can help anticipate demand, as can online grocery shopping, where customer suggestions for products they purchase

¹⁶ Parfitt, J. and Barthel, M. (2011) *Global Food Waste Reduction: Priorities for a World in Transition*

<http://www.bis.gov.uk/assets/bispartners/foresight/docs/food-and-farming/science/11-588-sr56-global-food-waste-reduction-priorities>

regularly are provided. New online-only grocery stores furthermore have reduced food waste by cutting the distance from field to fork. Products are shipped to customers directly from the product warehouse, trimming time perishable products sit on the shelf.¹⁷

Supermarkets often discard products several days before their sell-by date. These products can instead be resold through outlets such as www.approvedfood.co.uk.

The requirement of food waste measurement and separate collection in the retail sector can be an important encouraging action, while also contributing to Landfill Directive targets.

Products not meeting marketing standards for aesthetic reasons can be redistributed to charitable organisations such as FareShare in the UK. National authorities can enable this type of important measure, by removing legal barriers to food redistribution, which can be a blocking factor. Further encouragement can be provided to retailers through guidelines on how to do this safely.

Retailers also have a role in preventing household food waste. They can help educate consumers by providing information, through product labels, shelf talkers or in-store activities, on optimum storage, expected longevity, and effective use of leftovers. Retailers can help by providing a broad range of portion sizes to cater to different household sizes, and by adapting promotional offers, such as Tesco's Buy One Get One Free Later offer¹⁸, so that households do not buy more food than they can eat. Customers making more efficient use of food does not necessarily imply reduced profits for retailers, as customers may switch expenditure to other food products. Many supermarkets furthermore have recently launched customer awareness initiatives on food waste as part of their sustainability policy, signalling a rise in profile in the issue.¹⁹

■ Food service

Food waste in the food service sector is often linked to logistics (difficulty anticipating demand, or habitual overstocking), inflexible portion sizes and low awareness of food waste issues in general²⁰.

Separation and measurement of food waste, whether voluntary or mandatory, can have a positive impact, by making staff (and sometimes customers) aware of the quantity of food waste they are generating, provoking efforts to reduce this.

¹⁷ <http://www.ocado.com/theocadoway/being%20green/reduce-food-waste.html>

¹⁸ <http://news.bbc.co.uk/2/hi/business/8473122.stm>

¹⁹ For example:

<http://your.asda.com/sustainability-food-waste;>

<http://www2.sainsburys.co.uk/food/mealideas/leftovers/waste.htm>

²⁰ BIO Intelligence Service et al (2010) Preparatory study on food waste in the EU27

Wider acceptance of portion size flexibility, whether through the provision of two sizes or by requesting a smaller or larger portion directly to the server, is a simple way to make efficiency gains. For example, TGI Fridays now offers two serving sizes on some menu items, and cafeterias are increasingly responsive to customer portion requests.

Logistical innovation to better estimate guest numbers is also helpful. Reservation requirements are a helpful solution here. An emphasis on fewer choices and higher quality can also make an important difference, particularly in smaller outlets. The obligation to stock a large range of menu items daily easily leads to inevitable waste.

Enabling food redistribution is another efficient strategy in redirecting edible food that would be otherwise discarded. The removal of legal barriers for companies in donating their unsold food is one helpful avenue. Guidance on the practical implementation of food donation is also helpful; in some cases social institutions do not have experience in handling food and local authorities can provide guidance or training here.

■ **Businesses and institutions**

Schools, hospitals and businesses present specific issues in food waste prevention. Cafeterias in general and at schools in particular can reduce food waste by increasing flexibility in food choices and portion size. Plate sizes, the placement of bread and the use of trays can also impact the amount of food taken and eaten. School cafeterias are an excellent environment in which to communicate on the importance of food waste prevention, fostering the development of values and behaviours regarding resource efficiency that can be carried through into adulthood. MS across Europe have recognised that the education sector can play a particularly important role in reducing food waste. Measures taken to encourage waste prevention practices among younger students can have lifelong impacts. Several MS have already developed materials for schools to engage children in this topic, including lesson plans, factsheets, activity ideas, films and teacher guidelines. Teacher training may support wider 'green school' programmes. The Netherlands has developed a two year educational plan across all levels of education to stimulate food waste awareness; schools in France have designed their own waste prevention plans; and schools in the UK have run measurement trials in which children weigh the quantity of food they waste. Good communication between catering staff, school administrations and teachers is important in effective implementation of school behaviour change programmes.²¹ Actions to stimulate food waste prevention in schools can be organised at national, regional or local level, and they are integral to any coherent approach to behaviour change.

Hospitals may present particular opportunities for food waste prevention, by monitoring patient numbers more accurately, allowing patients to opt out of the meal service, given patients choices of food and serving size, opting for bulk packaging instead of individual portions, and so on. The Green Healthcare programme in Ireland

²¹ French Ministry of Ecology (2011) Food wastage Study Mid-term Report: http://www.developpement-durable.gouv.fr/IMG/food%20waste%20mid-term%20report_VF.pdf

identified potential savings of over €150,000 per hospital²². As with households, businesses and institutions also contend with food losses during the food preparation, cooking and storage phases.

■ Households

Household food behaviours are habitual and intuitive²³, and a wide range of causes can be attributed to actions that the consumer does not think about. Food waste preventing behaviours are thus also multiple, and a suitable response will involve a range of complementary policies. Some of the diverse causes of food waste can be addressed by measures towards or by producers, such as date labelling clarity, storage guidance, re-sealable packaging, and portion size diversity. Food retailers can also support food waste prevention by helping customers understand date labels and by using shelf talkers to provide guidance on portion sizing, use of leftovers and storage.

Other measures should address consumer behaviour in relation to food waste. A comprehensive and well-known campaign, Love Food Hate Waste, provides a key example of awareness-raising opportunities. Such campaigns can complement retail efforts on the provision of storage guidance, and elaborate advice on shopping and meal planning, leftover usage, and other innovations for using purchased food more efficiently. A comprehensive consumer behaviour approach may take into account the earlier section on this, and engage personal values for efficient resource use, in addition to financial interest in wasting less.

²² Green Healthcare programme : www.epa.ie/whatwedo/resource/nwpp/gbi/

²³ Defra (2009) *Food Synthesis Review*

3. DEVELOPING A FOOD WASTE PREVENTION PROGRAMME

As required by the Waste Framework Directive, Member States are developing National Waste Prevention Programmes to reduce waste generation in general. They are also required by the Landfill Directive to produce national strategies for biodegradable municipal waste management, but not limited to prevention. The development of a national food waste prevention strategy can help MS contribute to both these obligations, and clarify the Member States' approach to this key issue.

The EU Waste Prevention Guidelines, developed in 2009, provide further resources on the development of a National Waste Prevention Programme in general.²⁴

3.1. ANALYSIS OF NATIONAL SITUATION REGARDING FOOD WASTE GENERATION AND IDENTIFICATION OF KEY ISSUES

An analysis of current food waste generation is a first step in the development of a national strategy on food waste. This should include an assessment of the adequacy of data reporting on food waste and efforts to ensure that definitions of food waste are clear and coherent with other MS. Food waste data reporting can be improved by establishing a common definition of food waste and by launching pilot studies on its measurement (as has been done in the UK, Ireland, Austria for example).

The size and structure of the food industry may be taken into consideration along with the demographic factors such as the proportion of urban residents. Existing infrastructure to manage food waste and future needs will be considered alongside policy pressures on food waste management, such as diversion targets in the Landfill Directive. Previous efforts and tools for waste prevention may be built on in some MS.

3.2. APPROACHES TO MEASUREMENT

It is recommended that measurement is standardised and reported regularly. Reporting food waste separately provides a clear indicator of progress on prevention, as green waste can be impacted by climate and other factors. Food waste reported by sector is particularly helpful; the following sectors are suggested:

- Food manufacturing
- Food distribution and retail
- Food service

²⁴ European Commission (2009) Waste Prevention Guidelines

- Business and institutions
- Households

Reporting on these five sectors enables MS to track progress on sector-specific prevention measures and promotes benchmarking with other MS. When a clear definition and methodology for measuring food waste has been adopted through national study and pilot measurement projects, mandatory data reporting obligations for each sector may be considered, as some sectors may be reluctant to share this sort of information. Accurate measurement allows stakeholders and Member States to adapt their strategies when measures are not demonstrating expected results.

3.3. DEFINITION OF OBJECTIVES

Based on the analysis of the current situation, national objectives for food waste prevention should be set, providing direction for the development of MS-level indicators and targets. Examples of objectives include increasing national resource efficiency, better implementation of the waste hierarchy (reducing landfill dependence in favour of environmentally sound alternatives²⁵), and increased public engagement in waste prevention, in addition to an overarching aim of decoupling waste generation from the environmental impacts of waste generation.

3.4. DEFINITION OF NATIONAL INDICATORS AND TARGETS

The development of targets and indicators goes hand-in-hand. A target is an indicator value that has to be reached within a set timeframe. Member States have to include in their food waste prevention plan, (1) a clear definition of **food waste (see p3)**, (2) a clear approach on **indicators**; a definition of national food waste prevention indicators and a strategy to obtain sufficient data to calculate the indicator, (3) the definition of a future indicator value as a **target** value, and a policy commitment to reach this target within a defined timeframe.

For reasons of EU-level compliance checking, benchmarking and exchange, similarity between definitions, indicators and targets can be an asset.

Two approaches can be developed. (a) Measuring in a standardised way the degree of **decoupling**, as decoupling is one of the effects to be expected from prevention, or (b) looking at means and **efforts invested** in prevention activities. The first approach has the advantage of being quantifiable and comparable, and it does not depend on interpretation. But it has the disadvantage that prevention is not measured directly. It does not distinguish between decoupling through prevention and decoupling for other,

²⁵ The primary goal of Ireland's National Waste Prevention Strategy

www.environ.ie/en/Publications/Environment/Waste/WasteManagement/FileDownload,1442,en.pdf

macroeconomic, reasons. The second approach is a scoring system adapted to the proposed individual food waste prevention measures. It measures prevention efforts directly, but it has as a disadvantage that it depends upon scoring, is less comparable due to the freedom to choose measures adapted to the Member State, and it does not look at the result of the measures. A **mix of both** strategies is advised.

Decoupling for food waste can be calculated from the quantity of municipal food waste generated versus the level of consumption of food products. For food waste from caterers, restaurants, retail and food processing plants, the decoupling of the pre-consumer food waste generation versus the production of food products can be measured. Decoupling from GDP is not advised as an indicator, as GDP is not strictly linked to material use or food consumption. Decoupling from Domestic Material Consumption or Total Material Requirement of food products can be an alternative. Decoupling can be used as an indicator for prevention on the content of harmful substances, only if the latter can be expressed quantitatively.

Target setting is a **policy choice** reflecting the level of ambition of a Member State. It can be defined as reaching a **score** above a certain value for the amount of invested means and efforts. It can be defined in general terms on reaching **decoupling**, relative decoupling or absolute decoupling. In the case of relative decoupling the environmental impact still increases but at a slower pace than its economic driver (e.g. level of consumption). Absolute decoupling occurs when the impact goes down, even when the driver still goes up. Or finally a target can be defined in **absolute figures**, a quantity or an impact has to go down beneath a level that is considered **sustainable** by the Member State.

Targets need to consider existing infrastructure, capacity and behaviour, as well as future trends. A link between the separate collection of food waste and household food waste prevention was noted through stakeholder consultation in the 2010 EC Preparatory Study on Food Waste. Prevention targets may consider separate collection rates and capacity in their development.

Examples of targets may include:

- Percentage decreases in MS and sector level food waste generation, over 5-10 years
- Quantity of food redistributed from business environments (where it would have been discarded as waste) to resale or charitable outlets
- Reduction in the amount of food discarded still in its original packaging
- Reduction in food waste as a percentage of food industry revenue²⁶

In developing targets, the impacts, costs and benefits, investment required and waste prevention potential should be taken into account.

²⁶ Eurostat provides information on food industry revenue under NACE code: Naio_15_agg_60, CPA_DA15

3.5. SELECTION OF MEASURES

MS may consider research on the specific national causes of food waste, the quantities of food waste generated in each sector (manufacturing, retail, food service, households), the existing infrastructure for bio-waste management, relevant national policy and the defined national objectives for food waste prevention, in selecting suitable measures for implementation. Possible measures are described by sector in chapter 2 of this document. Measures may be integrated with other activities in National Waste Prevention Programmes, supporting overall resource efficiency goals and contributing to the Member State's strategic vision for sustainability.

A panel of experts and key stakeholders may be formed at this stage to elaborate the programme, oversee its implementation and monitor its progress. A description of a 'National Waste Prevention Committee' is proposed in Chapter 4 for this purpose. The committee may consider opportunities for synergies with existing public policies and initiatives led by business, research or civil society, building on existing structures and interest to strengthen impacts and minimise expense. Good practices identified in the annex of this study and the breakdown of measures by sector in Chapter 2 demonstrate the range of options available, enabling a National Food Waste Prevention Committee to match these to their objectives and capacities.

3.6. DRAFT ACTION PLAN

An action plan laying out the actions to be taken, the timeline and relevant milestones, the resources to be invested, the key actors involved, as well as national food waste prevention targets, should be envisaged.

Operational targets may be set for each measure applied at national level, in order to ensure the efficacy of measures selected and their return on investment. These will help MS in refining waste prevention programmes based on activities that work well and to target sectors that have been unresponsive.

An implementing body such as a National Waste Prevention Committee, possibly within the national Environmental Protection or Waste Agency, may oversee measures taken and results achieved.

Possible sources of funding for NWPPs include landfill taxes, levies on plastic bags (as in Ireland), and possibly EU regional funding as suggested in the 2010 COMM, among other sources.

4. IMPLEMENTATION AND ENFORCEMENT

4.1. IMPLEMENTATION

Early involvement of stakeholders in the development and implementation of the food waste prevention programme is important in order to secure stakeholder ownership and engagement in the long-term.

The establishment of a National Waste Prevention Committee can be an effective means to oversee the implementation of a National Waste Prevention Programme and a national food waste prevention strategy. This body may exist within the Member State's Environment or Waste Agency and may comprise representatives from government ministries (environment, agriculture, industry), relevant trade associations, waste management associations, and environmental NGOs. In addition to a coordinating role, the Committee's broad membership will seek to assure active engagement and high-level commitment from key food waste generating sectors.

4.2. MONITORING

A National Waste Prevention Committee may track how the food waste prevention strategy is working. The Committee or independent body may be responsible for centralising national food waste data and sub-sector data if possible. It is thus well-placed to monitor progress towards targets and can contribute to adjustments of the food waste prevention strategy to build on successes achieved and address any failing areas. Further research may also be commissioned and overseen by the implementing body. Waste characterisation and consumer behaviour regarding food waste are two notable areas for further study.

An independent body may also be considered to assess progress towards targets, in order to ensure objective assessment and decouple implementation from monitoring

4.3. ENFORCEMENT

Many measures to prevent food waste are non-regulatory (awareness-raising, information sharing, benchmarking). However there may be opportunities to link funding to prevention targets or impose penalties on sectors that fail to meet targets. A National Waste Prevention Committee can play a role in both monitoring and enforcement, assuring the overall success of the programme.

5. REFERENCES

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6. ANNEX: GOOD PRACTICES IN FOOD WASTE PREVENTION

Initiative Name	Initiative Description	Country	Source
Target sector: Food processing			
Reducing food losses in high value agrochains	The impulse programme for sustainable agrochains contains a number of initiatives for industrial and cross-sectoral food waste prevention: <ul style="list-style-type: none"> - Pilots to reduce food residues through collaboration in the agrochain. + 'Meat quality assessment' - Information tools on food losses, - Study 'Food waste, Value of Food in the Agrochain' - Prizes for successful examples in reducing food waste - Public innovation agenda - Government funds for strengthening to improve efficiency in the fresh food chain - Fund for research/training/feasibility studies/pilot projects food waste prevention in small and medium sized enterprises - Best practices in successful prevention of food losses by collaborations - Experiments to generate concrete solutions to food waste - Study on (economic) stimuli in the agrochain. 	NL	http://english.minInv.nl/portal/page?_pageid=116,1640321&_dad=portal&_schema=PORTAL&p_file_id=2001236 www.gkc.nl
Food and Drink Federation's Five-fold Environmental Ambition	<ul style="list-style-type: none"> - Survey of members' food and packaging waste generation. - joint project with WRAP to carry out waste prevention reviews at 13 of our member company sites across the UK. - working closely with FareShare 	UK	http://www.fdf.org.uk/environment_progress_report.aspx
Collaboration between the Catalan Waste Agency and the Barcelona Food Bank	The Catalan Waste Agency now collaborates intensively with the Food Bank, giving them technical and economical support to promote their activities. The technical support includes support for the awareness campaigns, or the detection of food industries that are destroying their food remains. The economic support consists in an annual economic subsidy for the Bank that allows them to have a person in charge of contacting companies that could donate food to the bank.	ES	http://www.bancdelsaliments.org/default.asp?idSeccio=home&idIdioma=2
Food Standards Agency guidance on the application of date marks to food	The Food and Drink Federation is currently involved in work with WRAP and the Food Standards Agency to develop date marking guidance to aid greater consumer understanding of best before versus use by.	UK	http://www.food.gov.uk/consultations/consulteng/2010/fsaguidanceappdatemarkarkfoodeng
"Handbook of waste	Handbook of waste management and co-product recovery in food processing provides information about the major	UK	http://www.cplbookshop.com/contents/C3664.htm

Initiative Name	Initiative Description	Country	Source
management and co-product recovery in food processing"	issues and technologies involved in waste co-product valorisation, methods to reduce water and energy consumption, waste reduction in particular food industry sectors and end waste management.		
Freshlabel	Integrated approach to enhancing the traceability of fresh and frozen meat and fish products through the cooling chain, using Time Temperature Indicators.	EU	http://cordis.europa.eu/fetch?CALLER=FP6_PROJ&ACTION=D&DOC=2900&CAT=PROJ&QUERY=1170700790497&RCN=74777&DOC=1&QUERY=012686305b05:3625:021800bc
Pilot project 'Meat quality assessment'	A new method for evaluating the quality of meat was used in slaughterhouses	NL	http://www.se2009.eu/polopoly_fs/1.24471!menu/standard/file/Roland%20Th%C3%B6nissen.pdf
ScrapShop	A free online waste exchange allowing organisations to list and purchase redundant stock and surplus materials. It includes a foodstuffs category along with other waste streams.	UK	http://www.scrapshop.co.uk
Phasing out of EU "Cucumber Regulation" EEC No 1677/88	European policy allowing less aesthetically perfect vegetables to be sold, preventing the unnecessary discard of various types of produce.	EU	http://www.europarl.europa.eu/sides/getDoc.do?language=SK&type=IMPRESS&reference=20090706ST057744
Project 'Bread'/'Fast return'	Activity arising from the pilot 'Useful applications for organic residue flows'. Project to avoid or make better use of bread returns within the industrial bread chain.	NL	
Public Innovation Agenda: sustainable agro and fisheries chains	Innovation agenda aimed at fundamental long-term innovation in agricultural and fisheries chains and at new bio-based processes and products. Food waste is an action point in this agenda	NL	
Business strategy waste prevention of the European food industry	A report by CIAA that gives aims and guidelines to avoid food waste (chapter 2): Use of by-products (e.g. in animal feed, fertilisers, bio-energy, pharmaceuticals, etc.), Avoiding food waste in transport and households through optimised packaging solutions, Packaging waste prevention through packaging weight reduction, Matching of products to user needs(e.g. product and packaging design, portion size).	EU	http://envi.ciaa.eu/asp/key_themes_1.asp?doc_cat_2=Resources%20and%20Waste
Fish Chips	Use of otherwise inedible fish waste to create an Omega 3 rich fish chip product.	DK	http://www.food-supply.dk/portal-b2b/article/view.html?id=42844
New Irish legislation on separate food waste collection (SI 508 of 2009)	This regulation sets up the source separation of food waste from major commercial premises. This regulation is designed to promote the segregation and recovery of food waste arising in the commercial sector. It will facilitate in particular the achievement of the targets set out in Directive 99/31/EC on the landfill of waste, for the diversion of biodegradable municipal waste (BMW) from landfill sites to composting and anaerobic digestion plants	IE	http://www.irishstatutebook.ie/2009/en/si/0508.html

Initiative Name	Initiative Description	Country	Source
	and to other forms of biological treatment.		
Project 'Bread/'Anaerobic digestion of day-old bread'	Project to study whether it is possible to recover leavening agent from day-old bread to make new bread. (Activity arising from the Pilot 'Useful applications for organic residue flows'.)	NL	
Green Business programme	Offers businesses Resource Efficiency Assessments including food waste, energy and water.	IE	www.greenbusiness.ie
Target sector: Food retail			
FareShare	Promoting the message that "no good food should be wasted", this UK charity diverts edible food and drink products from industry to disadvantaged people, as well as providing warehouse training for the unemployed and helping food industry businesses reduce their greenhouse gas emissions.	UK	http://www.fareshare.org.uk
Team Austria Table	Excess fresh food is donated by supermarkets, local grocery stores, bakeries, vegetable farmers, but also by producers. Volunteers mobilised by a radio corporation pick up the food, transport it to Red Cross distribution centers and distributes the food to social poor.	AT	http://oe3.orf.at/teamoesterreich/stories/428346/
Approved Food	Specialised in selling dry food products that are near or past their "best before" date.	UK	http://www.approvedfood.co.uk/static/About_Us
Social Supermarkets	Organisations that gather and sell fresh food that otherwise were to be destroyed by agriculture, food producers and retailers. The sale was for one third of original price, so that it is not pure charity shop.	AT	Stakeholder document: CRI
Food bank	A food bank was established. It is a non-profit organization with support from Social Security and Interior. The organization disseminates food from food producers, retail etc. to social organizations. Food Bank is approved by the Food Agency.	DK	www.eurofoodbank.org
Carrefour actions to reduce waste	Usable but not marketable products are given to local associations. They also invited some local associations to explain to their clients how to reduce waste.	FR	Stakeholder document: Carrefour
Last Minute Market	Provides a service to enterprises (supply) and institutions in order to prevent and reduce food and non-food waste production. LMM enhances, also, the recovery of unsold goods in favour of charity institutions (demand). One of the objectives of LMM is to create a contact between supply (for-profit organizations) and demand (non-profit organizations): the scheme in which the exchange is performed works throughout as a gift transfer between the profit and non profit organizations.	IT	www.lastminutemarket.it
Smart shelves and smart	"Smart shelves" indicate when a product is nearly be sold out and therefore new supplies need to be ordered. "Smart	SE	http://www.naturvardsverket.se/Documents/publikationer/978-91-620-5885-2.pdf

Initiative Name	Initiative Description	Country	Source
packaging	packaging" change their colour when the "best before" date is approaching, warning the retailers/consumers.		
Feeding the 5,000	Action Aid UK fed 5000 people with food that would have usually been wasted. The point was to highlight the food wastage. Between 12pm and 2pm on Wednesday 16th December we will be serving food to 5,000 strangers	UK	http://www.feeding5k.org/
"Les biodéchets du commerce et de la distribution" and "Les biodéchets de la restauration"	Document by ADEME on supermarket organic waste characterisation and how to reduce and recycle organic waste from supermarkets ; Document by ADEME on restaurants organic waste	FR	Stakeholder document : ADEME
Buon Fine (To a fair end)	Coop shops collect every day products which cannot be sold anymore, because the packaging has been damaged or because the expiring date is 2 days later. They give these products, on a daily basis, to not for profit organisation working with homeless, poor people and houses hosting kids.	IT	Marisa Parmigiani Social Policy Director Coop-ANCC Marisa.parmigiani@ancc.coop.it
North London road shows to avoid food waste	The waste department of North London organized "road shows" to reduce waste food in supermarkets and shopping centers in 7 north London counties. Results from this were presented in the "Watch Your Waste Week".	UK	Strange, K. (2009): International review of household waste prevention policies and practices. DEFRA household waste prevention evidence review (WR1204). Resource Recovery Forum. United Kingdom.
"Buon Samaritano" (Good Samaritan)	Comune di Torino and Amiat have implemented the "Good Samaritan" project, which collects uneaten meals from school canteens and products that are still edible from supermarkets and give them away to charity organisations to prevent them from being sent to landfill sites.	IT	http://www.amiat.it/interno.cfm?SEZ_ID=20&SS_ID=14&PAG_ID=40 http://www.amiat.it/interno.cfm?SEZ_ID=20&SS_ID=14&PAG_ID=40&PD_ID=12 http://www.amiat.it/interno.cfm?SEZ_ID=20&SS_ID=14&PAG_ID=40&PD_ID=11 http://www.amiat.it/interno.cfm?SEZ_ID=20&SS_ID=14&PAG_ID=40&PD_ID=13
Waste prevention and reuse in shopping centres	Measures undertaken include the promotion of reusable carrier bags, food campaigns etc. in the shopping centre of Urbil.	ES	www.ewwr.eu
Cora sustainable development report	Cora supermarkets explain, in their sustainable development report, what they do to avoid food waste: each store gives food products with damaged packaging to NGOs, they sell nearly out of date products at a lower price or give them to NGOs, they destroy out of date products.	FR	http://www.cora.fr/le-groupe/developpement-durable.html#
Réduisons nos déchets	French national campaign for waste prevention : website, radio messages...The website offers specific tips for the house and for the supermarket	FR	http://www.reduisonsnosdechets.fr/index.html

Initiative Name	Initiative Description	Country	Source
Tax on all sizes plastic bags with thickness less than 15 microns	Implemented in to national law on 8 April 2011	BG	Ministry of Environment and Water of Bulgaria, Grigor Stoyanov
Target sector: Food services			
Green Hospitality Award Scheme + Guide "Less Food Waste More profit"	Scheme for the hotel and catering sector, involving the measurement and reduction of waste, with a specific focus on food waste, with an award for top-performers. The hospitality/catering sector food waste prevention guide "Less Food Waste More profit", based in findings from the Green Hospitality Award project, is being widely disseminated. This work is being extended to major hospitals where there are good prospects for food waste prevention.	IE	www.ghaward.ie
Eurest restaurant food waste campaign + European Week for Waste reduction in Eurest restaurants	150 units participating in efforts to quantify food waste, publicise results to staff and customers, explain the impacts of food waste and what can be done about it. 25 restaurants and 2 coffee shops in 15 different places in Sweden weighed and measured the waste from their preparations and from the guests during one day. Most of their other restaurants informed the guests what Eurest does to prevent food waste, using the 10-measure list to prevent and reduce waste. They use an Excel sheet to measure waste, with a graph entitled "so much waste we produce every single day", available to guests and staff.	SE	Christina Odén – environmental coordinator christina.oden@eurest.se www.avfallsverige.se
"A la carte" menu	Hvidovre Hospital changed how the catering services are operated to reduce food waste. Patients can now order "a la carte", at the time they want.	DK	http://www.dagensmedicin.dk/nyheder/2008/09/12/ung-hospitalskok-belnesm/index.xml
Food service targeting projects of the initiative 'Sustainable Agriculture as a testing ground for food waste prevention'	The initiative "LNV als duurzame proeftuin" ('Sustainable Agriculture as a testing ground for food waste prevention') contains a number of projects: - 'Last quarter of hour' experiments to avoid food waste by not offering all the menu till the last minute (Part of 'Sustainable Agriculture as a testing ground for food waste prevention') - 'Lunchcatering' seeks new ways of catering lunches in a food waste preventive way	NL	http://english.minInv.nl/portal/page?_pageid=116,1640321&_dad=portal&_schema=PORTAL&p_file_id=2001236 www.gkc.nl
Waste-Free Restaurant	Support of the initiative for a waste-free restaurant	NL	
Project 'Meals on Wheels'	Validation of the experiment to cater differently in hospitals	NL	
"Food Waste From Hotels	An investigation into food waste in the hotel sector of the catering industry.	UK	http://wmr.sagepub.com/cgi/content/abstract/1/1/295

Initiative Name	Initiative Description	Country	Source
and Restaurants in the U.K."			
Canteen Pilot Project	2 company canteens and 2 school canteens designed and implemented a set of good practices and measure the quantity of waste before and after the action.	BE	http://documentation.bruxellesenvironnement.be/documents/InfoFiche_GaspiProfessionnels.PDF?langtype=2060
Good Food Alliance	Set up the Good Food Alliance with the hospitality industry for marketing sustainably produced food	NL	VROM (2009): Draft National Waste Management Plan 2009-2021. The Hague, Netherlands.
Guide "lutter contre le gaspillage alimentaire"	Guide of good practice for restaurants and caterers, edited by UCM environment.	BE	http://www.ucm.be/C1256COD003C8BF5/0/4C57DF1CD3358AE2C125756E0053123C/\$file/UCMBrochureGaspillagealimentaire.pdf
Project 'Salvation Army'	Study of possibilities to better support business operation in the kitchen, using by-products from the food chain.	NL	
Office cafeteria campaign	Reservations for lunches; kitchen does not mix ingredients in advance; plates paid for by weight; consumer awareness of food waste & satisfaction surveys (on food quality/selection?).	BE	http://www.arc-cat.org/ca/publicacions/pdf/ccr/setmanaprevencio09/ponencies/13%20Pwp%20Joelle%20Van%20Bamb.pdf
Guide "Calling Time on Waste"	A guide on resource efficiency in the bar trade "Calling Time on Waste" includes advice on food waste prevention and has been widely disseminated to the trade.	IE	http://www.monaghan.ie/website2/download/pdf/environment/2009/VitnersCallingTimeOnWasteBooklet.pdf
Book "Déchets en restauration"	Book that aims at informing and raising awareness of caterers on waste, including reduction.	FR	http://www.editions-bpi.fr/Produits/E1144.asp
Dose Certa	<p>A fact sheet on the initiatives Menu Dose Certa is available on: http://ec.europa.eu/environment/waste/prevention/practices.htm.</p> <p>Here only an update is given:</p> <p>In 2011, the scope of the "Dose Certa" Project was extended beyond the original scope of the "Menu Dose Certa" case studies.</p> <p>"Dose Certa" project aims:</p> <ul style="list-style-type: none"> • Promote food waste reduction in Restaurants; • Aware to the importance of good practices, regarding: purchasing, inventory management; nutritional and environmental aspects; • Awakening consciousness, promoting behaviour change and environmental and dietary habits; • Motivate and empower voluntary and active participation. <p>The Dose Certa Project includes among other the following phases:</p>	PT	www.eunaofacolixo.com

Initiative Name	Initiative Description	Country	Source
	<ul style="list-style-type: none"> Initial diagnosis – Evaluation of the basis situation at environmental, nutritional and food stocks management; Training and good practices implementation; Final diagnosis– Evaluation of the “post awareness” situation at environmental, nutritional and food stocks management; “Dose Certa” Certificate attribution; <p>It is intended to develop the project with the target group of Restaurants, to allow participants to adopt best environmental, nutritional and food stocks management practices, since the goods purchase until the preparation of meals.</p>		
Target sector: Schools			
"Gaspillage alimentaire - les yeux plus gros que le ventre " (food wastage, bite more than you can chew)	A guideline is issued for teachers/pupils of 8 to 10 years on food waste prevention project work including measurement of food consumption, discussion of consequences and measures for improvement.	BE	http://documentation.bruxellesenvironnement.be/documents/IF_Ecoles_prof_GA8-10_Gaspillage_alimentaire_FR.pdf?langtype=2060
Food weighing in schools, Karlskrona	A multi step campaign was launched in 2009. The thrown away food of the municipalities primary and secondary schools was weighed in periods of two to three weeks. Based on the results, teachers and the meal personnel, aided by posters, brochures and other information media, put forward the topics: eat well – feel well, eat more vegetables and don't throw away food.	SE	Karlskrona Municipality (2010), www.prewaste.eu
Awareness campaign on food waste at school canteens	Trials in which children are made aware of how much food they leave on the plate.	UK	http://www.tristramstuart.co.uk/
Appetite for Action	Appetite for Action is a new, free educational website for all Primary Schools in the UK and Ireland that helps schools tackle a range of sustainability issues through the topic of food. The website provides materials from lesson plans and fact sheets through to activity ideas and films, helping pupils to reduce food waste, grow their own fruit and vegetables, understand composting and reduce waste to landfill. Plus the opportunity to take part in a school challenge to reduce their schools CO2 impact.	UK, IE	http://schools.appetiteforaction.org.uk/about/
Education implementation plan 'Food waste, Value of	Preparatory work for a two-year education plan across all levels of education. Two tracks: <ul style="list-style-type: none"> raising awareness of food waste in all secondary and higher education (from pre-vocational to university) 	NL	www.lei.wur.nl/UK

Initiative Name	Initiative Description	Country	Source
Food in the Chain'	• raising awareness of food waste in general education (primary and secondary)		
Competition for schools around waste prevention in school	Schools ("collèges") have to design a waste prevention plan.	FR	http://www.preventiondecets40.net/index.php/ppd/actions/education_a_l_enviromnement/concours_pour_les_collegiens
Groene Kennis Coöperatie (Green Knowledge Cooperative)	This collaboration is developing ways to increase awareness of food waste in vocational and higher education and how the associated competencies can be better taught. A two-year programme has been developed.	NL	Stakeholder document : CIAA
Zero Waste Programme	Waste Prevention Alliance (HuMuSz) launched a municipal waste reduction campaign towards all stakeholders, a dedicated website provides tips for waste prevention and reduction. With respect to food waste prevention for example a 330 page - 48 module book for teachers has been prepared to which provide teaching guidance on the topics environmental systems, lifestyle, food, shopping and food-preservation. Some modules address: Landscaping, after dinner, fair trade products, bargaining, slow cooking, slow town,	HU	http://www.humuszu.hu/
Target sector: Private consumers			
Anti-waste workshops' - Cooking Classes	Cooking workshops for the local community that highlight techniques and benefits of food waste reduction.	BE	http://www.arc-cat.org/ca/publicacions/pdf/ccr/setmanaprevencio09/ponencies/13%20Pwp%20Joelle%20Van%20Bamb.pdf
Pilot Project Food Waste Prevention in Lower Austria	A one year pilot project with 13 residential neighbourhoods featured - information meetings, - the application of motivation stickers, - the distribution of shopping list and left-over-cookbooks.	AT	http://www.wienerzeitung.at/DesktopDefault.aspx?TabID=3941&Alias=wzo&cob=485511&Page11962=1
Brussels food waste prevention pilot	In a pilot project for the prevention of food waste six very different families took part in consultation meetings during 3 months.	BE	Source to: Brussels Environment (2010) www.prewaste.eu
Public campaign to promote awareness about food and food losses (e.g. 'VersWijzer')	Public campaign by the Netherlands Nutrition Centre aimed at consumer behaviour and awareness. Paying special attention to: informed food purchasing, storage and preparation. This will include the development of the fresh food information brochure, Verswijzer	NL	www.voedingscentrum.nl
Campagne „100 kg less waste per capita“ + LIFE+-Project Miniwaste	The campaign of the European Association ACR + is aimed at ensuring that both local communities and regions and the EU as a whole increasingly committed to (food) waste prevention. They exchange information and experiences and above all partner activities started. An example of the latter is co-financed by LIFE + project "Mini Waste". The	FR, CZ, PT	www.miniwaste.eu

Initiative Name	Initiative Description	Country	Source
	project is carried out with cooperation of the communities Rennes (France) and Brno (Czech Republic), and the waste associations Lipor (Portugal) and ACR + and the research centre Cemagref (France). Various systems for food waste prevention are tested in pilot projects.		
Stop food waste	A website launched by the National Waste Prevention Programme with information for local authorities to disseminate to households and for anyone to access directly.	IE	www.stopfoodwaste.ie www.greenhome.ie
Tesco 'Buy One Get One Free Later'	UK grocery retailer Tesco launched a new initiative to allow customers buying perishable goods to collect their free item the following week.	UK	http://www.environmental-expert.com/resultEachPressRelease.aspx?cid=8847&codi=79507&lr=1
Target group study	Study on possible different approaches to differences in age group and lifestyle for a media campaign on food waste.	NL	
Sensible Fresh Food Guide	This guide aims at raising consumer awareness and influencing consumer behaviour. This campaign is directed at all consumer behaviour that may result in food waste and is intended to encourage better food purchasing, storage and preparation behaviour by the Dutch public.	NL	CIAA document on food waste in the Netherlands
Great Taste, Less Waste'	Campaign to help customers reduce waste, including storage advice, 'market street' portion choice, labelling information, leftover cooking advice and 'packaging laboratory: keep it fresh' tests.	UK	http://www.morrisons.co.uk/Corporate/Press-office/Corporate-releases/Morrisons-launch-Great-Taste-Less-Waste-campaign-to-save-families-up-to-600-per-year-/
Use more, waste less (Brug mere, spild mindre)	Two informative brochures are distributed by the Danish Ministry of the Environment: a) Six ways to less (general) waste, b) Five ways to less food waste	DK	www.brugmerespildmindre.dk
Combined factsheet on food waste by consumers	Development of a factsheet on food waste by consumers by bringing together several sources	NL	
Le gaspillage alimentaire-un coup dur pour votre budget (food wastage, a hard blow on your budget)	Guide on waste prevention (using the economic point of view), by Copidec (Conférence Permanente des Intercommunales de Gestion des Déchets wallonnes).	BE	http://www.copidec.be/Gaspillage-Alimentaire.pdf
Packaging Laboratory: Keep it Fresh	Packaging research to identify what sort of packaging can extend the life of specific fruit and vegetables.	UK	http://www.morrisons.co.uk/Corporate/Press-office/Corporate-releases/Morrisons-launch-Great-Taste-Less-Waste-campaign-to-save-families-up-to-600-per-year-/

Initiative Name	Initiative Description	Country	Source
Eviter le gaspillage alimentaire, cela commence au magasin (avoiding food wastage starts in the shop)	Brochure on food wastage by L'Observatoire bruxellois de la Consommation durable.	BE	http://www.oivo-crioc.org/files/fr/4538fra.pdf
Mass media campaign on Food waste	Campaign towards consumers on food waste	NL	
Study on food spillage	Residual household waste of 2000 families will be sorted with special attention on kitchen waste. This fraction will be further sorted, classified in several categories as avoidable or not (depending on storage life), compostable or not, package open or closed, fruit, vegetable, meat... The conclusion can be that an awareness-raising campaign is needed for some categories.	BE	An internal study (based on literature) was conducted and will be published on www.ovam.be ; kathleen.schelfhout@ovam.be
Opération "Familles-Témoins" (test-families)	24 families tried to reduce their waste production by following specific rules for 14 weeks. The rules included : composting, choose the right packaging, avoid disposable products, repair as much as possible + weight their waste.	FR	http://www.symevad.org/Familles-Temoin.html?var_recherche=familles%20t%C3%A9moins
Shopping List Notebook	Circulated during EWWR, the notebook encourages planning before shopping, as this has been identified as an important practical method of reducing household food waste.	EU	http://www.ewwr.eu/outils
"Helping Consumers Reduce Fruit and Vegetable Waste"	WRAP report that examined the attitudes and behaviour around the storage of fresh fruit and vegetables in the home. Provided recommendations on the proper method and location (fridge, press, etc.) for the storage of fruit and vegetables.	UK	Irish FW Prevention and Home composting draft Final Report
Incentive bin tax	The town of Besançon is setting up a new system that will make people pay for the waste collection tax according to the weight of their bins. It gives financial incentive for waste reduction	FR	http://www.goodplanet.info/goodplanet/index.php/Contenu/Depeche/Reduire-ses-ordures-pour-reduire-la-facture-la-pesee-des-poubelles-lancee-a-Besancon
Poubelle.org ("bin.org")	Fake supermarket websites that pretends to sell packaged waste. It is the occasion to give tips and explanations on food waste and sustainable consumption, that correspond to each section of the supermarket	BE	www.poubelle.org
Establishment of voluntary agreement for cancelling their paper invoices and using electronic	Establishment of voluntary agreement between citizens and private companies (mobile phone services, internet services, communal services – water and electricity suppliers and etc. for cancelling their paper invoices and using electronic invoices	BG	Ministry of Environment and Water of Bulgaria Grigor Stoyanov

Initiative Name	Initiative Description	Country	Source
invoices			
Cross sectoral food waste prevention			
Policy Document on Sustainable Food	Governmental vision on sustainable consumption and production of food. The Ministry of Agriculture, Nature and Food Quality is aiming to achieve a 20% reduction in food waste by 2015, targeting the consumer and the agrochain.	NL	
Prizes for successful examples in reducing food waste	Idea for a competition to highlight existing initiatives in which businesses and consumers can submit ideas on how to reduce or avoid food losses. The 5 or 6 best solutions will receive a prize from the Minister of Agriculture, Nature and Food Quality with extensive media attention. (Part of Impulse programme for sustainable agrochains.)	NL	
Green Cook	Campaign against food waste, by taking a very broad approach, linking food wastage to health, social actions, economic development. The aim is to create new dynamics among all food-actors. In the project innovative strategies for influencing the relationship between professional and home chefs as well as consumers, on the one hand, and food, on the other hand, is developed: - methods, tools and training for the orientation of food use towards the real needs, for the selection and storage of food, for the meal planning, for the composition of the menu and for the use of unused food are developed. - For school cafeterias own training programs are developed. - At the grocery store the information exchange between sellers and buyers will be intensified. - An emphasis is also on the transfer of unused food to the needy.	FR / BE	www.green-cook.org
Food waste monitor	Development of a food waste monitor using a set of indicators. To monitor the effects of the policy on food waste.	NL	
Study 'Foodsafety vs. Food waste'	Study on the interaction between food safety-regulations and food waste.	NL	
Introduction of landfill tax	Introduction of a landfill tax	BG	Ministry of Environment and Water of Bulgaria Waste Management Directorate 1000 Sofia, 22 Maria Louisa Blvd. env.eng. Grigor Stoyanov - chief expert tel. +359 2 9406627 mob. +359 88 7648473 e-mail: gstoyanov@moew.government.bg ecogor@gmail.com
Obligation to the	Obligation to the municipalities to introduce waste prevention measures in their local waste management	BG	Ministry of Environment and Water of Bulgaria

Initiative Name	Initiative Description	Country	Source
municipalities to introduce waste prevention measures in their local waste management programs	programs		Grigor Stoyanov
Introduction of Green Public Procurement (GPP)	The Ministry of Environment and Water (MEW) of Bulgaria has joint responsibility with the Council of Ministers, the Ministry of Economy and Energy and the Public Procurement Agency for GPP implementation in Bulgaria. A National Action Plan on GPP has been prepared and is in the process of adoption by the national government. In addition, practical guidance on GPP is distributed by MEW amongst contracting authorities in Bulgaria. This includes the purchase of 100% recycled paper instead of chlorine bleached paper.	BG	Ministry of Environment and Water of Bulgaria Grigor Stoyanov
Starting of National initiative campaign "GREEN BULGARIA"	The Ministry of Environment and Water has started the national campaign "Green Bulgaria". Every small or big company, municipality, city or district – every institution which has taken an initiative for waste prevention or other types of environmental protection - may take part in the campaign and become a bearer of the badge of gratitude Green Bulgaria.	BG	Ministry of Environment and Water of Bulgaria Grigor Stoyanov
Trim Trax food waste monitoring programme	The compass group has developed the Trim Trax tool to measure all food waste in their catering locations.	BE	Compass Group Belgilux Haachtsesteenweg 1179 1130 Brussel +32 2 243 22 11 info@compass-group.be http://www.compass-group.be/en/news/compass-group-confirms-ambitions-with-iso-14001-certificate.aspx
Sustainable canteens programme	The sustainable canteens programme launched every year by Brussels Environment allows canteens from schools, enterprises, administrations, kindergardens, etc. To be informed on sustainable issues related to food (including food waste) and implement an action plan towards more sustainability:	BE	Brussels Environment, http://www.bruxellesenvironnement.be/Templates/Professionnels/Niveau2.aspx?id=3382&langtype=2060
Horta da Formiga - Cooking courses to prevent food waste	Practical cooking courses that focus the use of leftovers, the correct food conservation and the balanced meals. These courses are intended for the general public over 18 years old and demonstrate practical concepts that applied on a daily basis can prevent food waste.	PT	http://www.hortadaformiga.com/
Awareness raising guides for download	Practical guides available for download: These guides are intended for the general public and aim to raise the awareness of the population about food waste, focusing on the correct food conservation and how a monthly meal	PT	www.hortadaformiga.com

Initiative Name	Initiative Description	Country	Source
	planning and connected recipes can reduce food leftovers.		