



# Prevention and reduction of food and drink waste in businesses and households

Guidance for governments, local authorities, businesses and other organisations, Version 1.0

**Executive Summary**



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With thanks to all the organisations who have contributed examples and content – full acknowledgements will be given in the main document

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UNEP commissioned WRAP (Waste & resources Action Programme) to write this Guidance as a partner in Think.Eat.Save Campaign based upon demonstrable experience in the UK of engaging with businesses through the Courtauld Commitment and with consumers through Love Food Hate Waste Campaign and the recently launched Hospitality and Food Services Agreement. UNEP acknowledges that this approach cannot contain all the answers in this version 1.0; however, in drawing on this experience in producing this document, it is hoped that users will share experiences in food and drink waste prevention and reduction in other countries, regions and businesses to build on, improve and broaden the methods and approaches that can be taken to prevent and reduce food waste. It is expected that this guidance could be a 'living document' - developing over time. All enquiries should be directed to James.Lomax@unep.org.

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## Executive summary

### Background and introduction

Think.Eat.Save: Reduce Your Foodprint was launched in January 2013, by the United Nations Environment Programme (UNEP), the UN Food and Agriculture Organisation (FAO), Messe Düsseldorf GmbH and a number of diverse stakeholders, including the UK-based Waste & Resources Action Programme (WRAP). The purpose of Think.Eat.Save is to raise awareness about the need to reduce food waste, as around **one-third of food produced for human consumption is lost or wasted** globally (FAO, 2011) and this has significant negative financial, environmental and social impact.

- In **financial terms**, food waste is estimated to cost the Chinese economy, for example, \$32 billion (source WRI 2013) and in the United States, it is estimated that US\$48.3 billion is thrown away each year (source Think.Eat.Save).
- The production of food uses many resources, including land, water, and energy, and therefore has significant **environmental impact**. Indeed, if global food loss and waste was a country, then it would be the third-largest CO<sub>2</sub> emitter, after the US and China (FAO, 2013).
- **Food and nutrition security** is affected by food waste. The FAO (2013) identify a need to increase food availability by 60%, by 2050, yet food produced, but not eaten, uses almost 30% of the total available agricultural land.

This Guidance is a key product of the Think.Eat.Save campaign and the FAO/UNEP Sustainable Food Systems Programme, as well as the SAVE FOOD Initiative. It provides **clear and comprehensive steps for governments, businesses and other organisations** to develop strategies, programmes and activities to prevent and reduce food and drink waste, and to achieve the associated financial savings and reductions in environmental impacts. This is **Version 1.0** and the Guidance will be updated in the future, as best practices in food waste prevention continue to be implemented throughout the world.

The objective of this Guidance is to catalyse action around the world by sharing proven methodologies for food waste prevention. We hope you will use this resource, take advantage of our support and share your experiences implementing strategies.

## Scope

The **scope of this Guidance is food waste prevention in the retail, hospitality (restaurants, hotels) and food service (schools, hospitals) supply chains, and household food waste.** Waste and loss in the agricultural stages of production are not covered.

The document is organised in **four Modules** which, together, provide extensive guidance on how action can be taken at a country, region, or business level to prevent food waste – measured in tonnes. Food waste has a range of complex causes, and it arises in a dispersed nature – both geographically, across the globe, and at all stages of the supply chain and at consumption level. In order to address this food waste, there are simple actions that every individual or business can take, but there is even greater opportunity to achieve larger reductions if targeted programmes are developed and delivered. It is **scoping, planning, delivering and measuring food waste prevention programmes** and activities that is the focus of this Guidance. This Guidance seeks to address the complex problem of food waste, by providing a framework for action that can be used flexibly, as required by the user.

This Guidance is based on the **proven experiences of developing and delivering food waste programmes that have achieved significant measureable impact.** One of these is the experiences in the UK, where household food waste has been reduced by 21% between 2007 and 2012, and food retailers, restaurants, food service providers and food and drink manufacturers are signed up to voluntary targets to reduce food waste. A wide range of experiences from across the globe have also been used, both in developing the Guidance and to illustrate **examples of food waste prevention in action.**

This Guidance has been developed by using these proven experiences, in order to facilitate knowledge transfer; allowing others to develop and deliver programmes to prevent and reduce food waste more easily and effectively than might otherwise have been the case. There are currently a limited number of examples of such programmes, so it is likely that this **Guidance can be further developed over time**, drawing on new experiences from around the world. In the first instance, elements of this Guidance will be piloted in a range of countries.

The experiences drawn upon are largely from examples in the industrialised world and some emerging economies. In developing countries, it is documented that food loss and waste are more likely to be at the primary production stages and from farm gate to market including storage. However, as food consumption patterns become more similar across the world, the food waste prevention actions included in this Guidance will become increasingly applicable to developing countries. Learning from food waste prevention programmes in a developing country and emerging economy context can be added to this Guidance over time.

There is potential to reduce the amount of food waste that is disposed of to landfill, by recycling more through anaerobic digestion and composting, for example. These opportunities are set in context in this document, using a food material hierarchy, but the Guidance focuses solely on reduction and prevention of food waste, not on different waste management options.

## Audience and structure

The audience for this Guidance is **government departments, businesses and other organisations** who have the capacity to influence food waste at a country, regional or business-sector level, by developing and implementing strategies and programmes. This could also be within business operations and supply chains, and tools and information are provided in the Guidance, but the key focus is around developing regional and country-level strategies and implementing these strategies by **developing and delivering food waste prevention programmes targeted at consumers and businesses.**

Because of this strategy and programme focus, the Guidance is extensive and comprehensive - providing a full journey for the reader. Different organisations and countries may be at different stages of developing strategies for food waste and may therefore have different areas of focus, so the **Guidance can be used flexibly.**

The document contains a short introduction, providing background, context and drivers for reducing food waste. Following this, the Guidance document is structured into four Modules. The contents pages give an overview and hyperlinks to each sub-section, and a navigator diagram at the start points to some key sections.

Whilst the Modules are not independent of each other, it is not necessary to cover every step in every Module. Some elements may be more pertinent than others to the reader, given the objectives they wish to deliver.

Each Module has the same overall structure, enabling different elements within them to be used independently of one another as far as possible, as required. The Modules are:

- Module 1**      **Mapping and Measuring Food and Drink Waste**
- Module 2**      **Options for developing national or regional policies and measures for food and drink waste prevention and reduction**
- Module 3**      **Developing and implementing programmes to prevent and reduce household food and drink waste**
- Module 4**      **Preventing and reducing food waste in the food and drink business supply chain (retail and manufacturing, and hospitality and food service)**

Within each Module, the structure is presented through step-by-step sections covering:

- Purpose, potential users and outcomes;
- Guidance; and
- Summary.

A summary of the four Modules follows.

**Module 1 – Mapping and Measuring Food and Drink Waste** is to be used at the beginning of any work on food waste prevention at a country or regional level. There is guidance on how to quantify what is known about the amount of food and drink waste arising, where it arises (in the supply chain or the home) and its impacts. This is the **measurement** part of the Module. The **mapping** part of the Module covers information on how to better understand the opportunities, barriers and potential partners who can help reduce food waste. When the mapping and measurement parts of the module are combined, it provides a powerful basis on which to develop strategies and programmes. As such, the Module is most relevant to a government department or other organisation who can act as a country or regional level.

**Module 2 – Options for developing national or regional policies and measures for food and drink waste prevention and reduction** provides an overview of the various mechanisms available that can influence food waste. In the first part, this provides context for four mechanisms:

- Policy and legislative measures;
- Fiscal measures;
- Information provision; and
- **Motivational strategies.**

The first three of these mechanisms provide context for the various mechanisms that can influence food waste, and understanding them is useful to combine with the mapping work from Module 1. The Guidance then concentrates on using proven experiences to develop and deliver programmes to reduce food waste, based on **motivational strategies**. Two motivational strategies are therefore described in more detail, and these subsequently form the basis of Modules 3 and 4, respectively:

- **Consumer engagement programmes**
- **Voluntary collective action programmes with businesses**

**Module 3 – Developing and implementing programmes to prevent and reduce household food and drink waste** Food waste prevention consumer engagement programmes have been proven to work at a national and regional level. This approach is covered extensively in the Guidance, which covers two interrelated components, critical to success. These two elements are:

- A **household and consumer engagement campaign**. **Objective:** to raise awareness of food waste (and the benefits of its reduction), encourage behaviours which prevent food waste and equip consumers with the information, tools and skills they need; and
- **Changes to products, packaging and labelling**. **Objective:** to make it easier for households and consumers to buy the right amount of food and use what they buy, and therefore helping them to prevent and reduce food and drink waste.

There are five steps where guidance is provided on developing and delivering such programmes:

- Step 1** Plan and develop a strategy for a **consumer engagement programme**
- Step 2** Establish a baseline and set a target
- Step 3** Develop evidence-based guidance
- Step 4** Take action to prevent food waste
- Step 5** Measure, monitor and report progress

**Module 4 – Preventing and reducing food waste in the food and drink business supply chain (retail and manufacturing, and hospitality and food service)** has **two guidance sections**, each with a different purpose.

The **first section is aimed at individual businesses** and provides guidance on steps that can be taken to reduce food waste in their own operations and supply chains. This has three stages, followed by a continual improvement methodology, called W.A.S.T.E., which is a detailed practical example of an approach that can be used by businesses to prioritise and implement food waste prevention actions in their operations. **The three stages of the section for individual businesses** are therefore as follows:

1. Corporate strategy, baseline and targets;
2. Taking action – guidance with tools and examples; and
3. Measurement and reporting progress towards targets.

These three steps are followed by the W.A.S.T.E methodology, as an example tool that can be used for action.

The **second section is voluntary collective action programmes**. Whilst the first section can be used by businesses to help them take action unilaterally, many causes of waste in the supply chain are influenced by sector-level factors, or other organisations within the supply chain. Therefore, the impact of actions by individual businesses can be magnified, by developing and delivering programmes where businesses commit to working towards common targets. These are voluntary collective action programmes. Within a framework such as this, **businesses can work collaboratively** across sectors and supply chains to unlock greater potential in reducing food waste, in addition to reducing food waste in their own operations, using guidance in the first section of this Module.

There are five steps where guidance is provided on developing and delivering such programmes. The five steps are:

**Step 1** Plan and develop a strategy for a **voluntary collective action programme**

**Step 2** Establish a baseline and set a target

**Step 3** Develop evidence-based guidance

**Step 4** Take action to prevent food waste

**Step 5** Measure, monitor and report progress

## Summary and next steps

This Guidance aims to make a real difference, helping those around the world to reduce food waste, by providing **clear and comprehensive steps for governments, businesses and other organisations** to develop strategies, programmes and activities to prevent and reduce food waste, **based on proven, measurable experiences**.

This document provides the first comprehensive guidance of its kind and provides a robust, compelling and proven basis on which to reduce food waste, by developing, implementing and measuring food waste prevention through:

- **Consumer engagement programmes; and**
- **Voluntary collective action programmes with businesses.**

Examples have been used from around the world to illustrate various elements contained in this Guidance. The basis of the Guidance as a whole draws heavily on recent experiences in the UK, as one of the few countries with comprehensive food waste prevention programmes, where impact is measured. Whilst this Guidance aims to provide a useful framework for action on this basis, it is recognised that there is certainly no single, correct approach or solution. It is not intended therefore that this Guidance be prescriptive or to imply that this approach should prevail. It is recognised that there may be other methods which may work equally well or even better, particularly in different economic or cultural contexts.

To continue to validate existing and new approaches, and to produce more detailed practical guidance to help implement the elements within this document, components of the Guidance can be piloted, in partnership with different countries, and the Guidance will be updated to reflect these new insights.

### **Call to action**

Government departments, businesses and other organisations, that can influence food waste at a country or regional level, are encouraged to use the contents of this Guidance. Businesses are also encouraged to use the Guidance to help take action within their own operations.

At the same time, it is recognised that feedback on other experiences will help improve the Guidance over time, so this is **Version 1.0**, which will be updated and more detailed guidance for the different Modules can be produced. So please do use this Guidance and contact [James.Lomax@unep.org](mailto:James.Lomax@unep.org) if you:

- Would like to understand more about implementing elements of the Guidance or Piloting any part of it;
- Have experiences you would like to share; or
- Have feedback about the content of this Version 1.0 of the Guidance.