



CHORIZO PROJECT

Deliverable 4.1

ACTOR SPECIFIC GUIDANCE

FOOD SERVICES

D4.1 Actor specific guidance – Food services

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Glossary of terms and acronyms

| Acronym/Term | Description |
|---------------|---|
| FLW | Zero Food Loss & Waste |
| HoReCa | Hotels, restaurants and caterers (including institutional catering) |
| MOA | Motivation, Opportunity, Ability (framework) |
| SN | Social norm(s) |

Table 1: Glossary of terms and acronyms

1. About this guidance: how to work with social norms to reduce FLW in food services

1.1. Background to the guidance

CHORIZO (Changing practices and Habits through Open, Responsible, and social Innovation towards ZerO food waste) is a project co-funded by the Horizon Europe programme that aims to improve the understanding of the links between social norms, consumer behaviours, decisions of economic actors and food loss and waste (FLW) generation, and to use this knowledge to improve the effectiveness of decision-making and engagement of food chain actors, towards zero food waste. The project's main goal is to address existing research gaps and enable actors to use its outcomes to deliver and advance innovations helping a range of actors to engage more effectively in food waste prevention and reduction activities.

What are social norms?

In the CHORIZO project, we understand social norms as the unwritten rules and expectations which guide people's behaviour within a society or group. In the context of food waste and loss, social norms influence individual attitudes, beliefs, and behaviours related to food consumption, preservation and disposal.

Figure 1: What are social norms? Description from CHORIZO Deliverable 3.1 "Conceptual framework for behavioural change understanding" (2023), p15

This document is part of a series of actor-, context- and gender-specific guidance resources which have been developed from the research findings in the project. It is aimed at supporting actors in different contexts to be equipped with the knowledge to work with social norms to reduce food loss and waste generated by related target groups. Food services are an important lever of change and as a result in this document we focus on the part of the findings from the CHORIZO project's research activities that can be used in food service contexts (focusing on restaurants and catering services in particular). We have combined our findings with wider knowledge and the Academy of Change approach¹ to produce this guidance aimed at actors in European food services.

1.2. The purpose of this guide and how to read it

Would you like to reduce food loss and waste (FLW) in your organisation? Do you have the motivation and the opportunities to do so? Do you already have plans for activities in your organisation that focus on sustainable food practices? Then you are in the right place! This document aims to assist you in your food strategy and planning efforts and to increase your capability to take action effectively in food services, by providing you with knowledge on *social norms* in your context and a how to include this knowledge in a step-by step guide to implement a FW reduction intervention. Changing social norms, as you will read also further in this document, is an impactful tool in reducing food waste. Using social norms in your planning and implementation of interventions makes them even more effective in reducing FLW.

¹ The Academy of Change (AoC) (<http://aochange.org/>) is a capacity building programme first created by the Collaborating Centre on Sustainable Consumption and Production (CSCP) and Behaviour Change (<https://behaviourchange.org.uk/>), initially funded by the KR Foundation, to support organisations to develop behaviour change interventions.

This guide will equip you with practical knowledge on how to work with **social norms** - unwritten rules which influence people's everyday behaviour - to reduce FLW, in a knowledge process illustrated in **figure 2**.

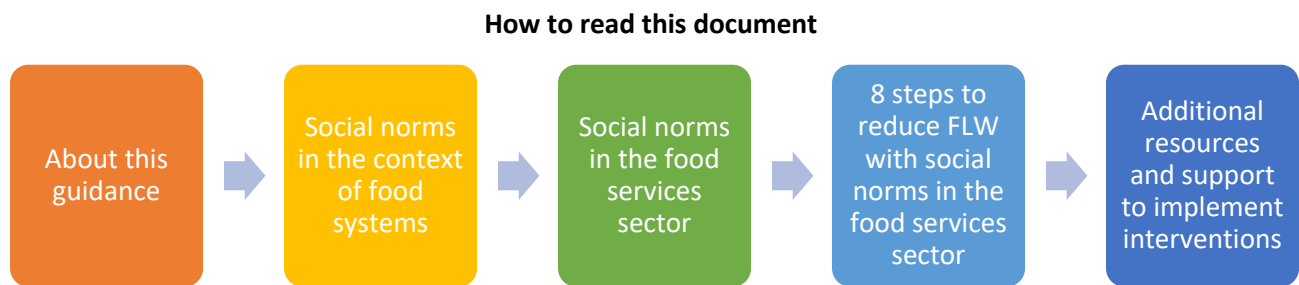


Figure 2: How to read this document - illustration of the structure of the guidance document.

Section 2 of this guide equips you with background information to **learn** about social norms (**section 2.1**) and how they affect FLW in the many different ways within food services (**section 2.2**).

Section 3 provides tangible examples of how social norms affect FLW in food services. Even better, you will learn how others have also designed interventions to change social norms and behaviour to save precious food. Then, you are ready to **identify** different kinds of social norms which are relevant to your context and start your own interventions!

Section 4 is designed to support you to easily **plan, design, implement and evaluate** your own interventions to reduce FLW. The presented 8 step guide to reduce food waste includes insights into social norms. This includes **evaluating** your own interventions to understand the impact and improvement potentials to continue to tackle FLW with social norms

Section 5 represents a resource library, sharing further insights on social norms and behaviour change approaches and interventions that might serve as an additional inspiration.

Where should I start reading?

- For those *new to how to conduct an intervention towards food waste reduction*, the whole document should be of high interest to you.
- For those *new to the concept of social norms* and how to use them in a FLW context, we also suggest following the guide from start to finish to understand how to enrich your current practice with new insights. (You might already work with 6-steps to implement your FW intervention, look out for the additional 2 steps we have added in **section 4**!)
- If you *already have experience in using social norms* in your context, but would like to hear more about the findings of the CHORIZO project in your field, we suggest to start with **sections 2.2 and 3**. Also check the two additional tips in the 8-step guide presented in **section 4**.

2. Social norms in the context of food systems

2.1. What are social norms?

Social norms are unwritten rules which influence people’s everyday behaviour. They can do so in two ways.

On the one hand, people might behave a certain way because they see other people doing a certain thing. For instance, a child may not eat their vegetables in the school lunch break, because they see other children leaving their salad on the plate as well. This behaviour of copying what most people do in the same situation is called a descriptive social norm.

On the other hand, people might behave a certain way because they think that others expect them to act like this. For instance, a person might no longer be hungry but still finish their plate, since they think that otherwise they might be perceived as being rude. These people thereby react to what they think is a rule of what is acceptable - which is called an injunctive social norm.

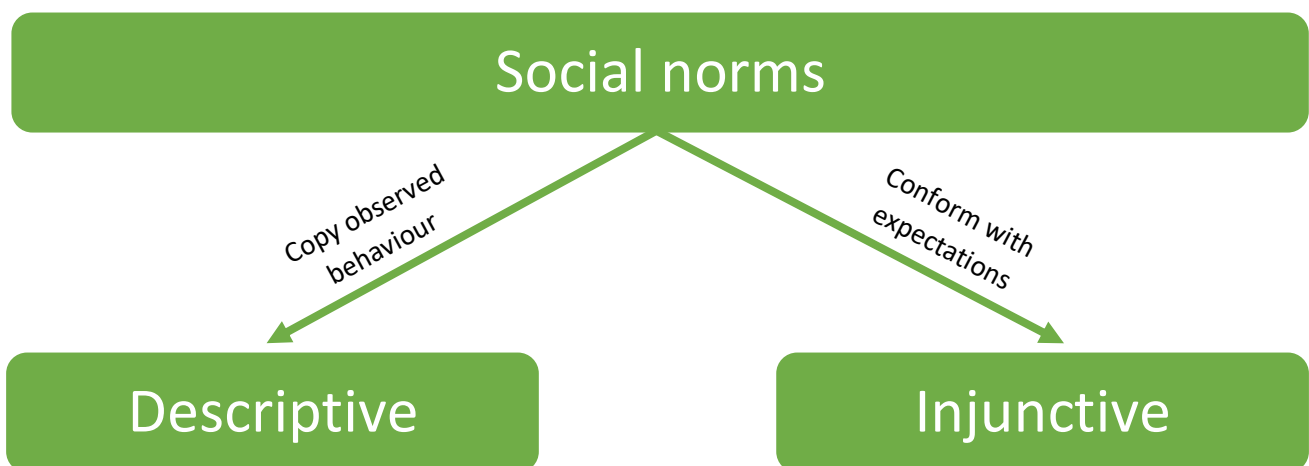


Figure 3: Descriptive and injunctive social norms

Norms can be static – based on a current situation – or dynamic – articulating a behavioural movement in one way or another.

Whichever type or combination - descriptive or injunctive, and static or dynamic - social norms can be seen as a powerful tool for change. The above examples - of a person eating more than they need to in order to finish their plate of food, and of a child not eating vegetables - show social norms that lead to more food waste. See **figure 4** for a range of different examples of social norms.

Now imagine the possible impact by changing behaviours of several people towards creating social norms which favour less FLW. Learning about social norms can support you in developing different interventions to achieve a more desirable behaviour.

This guidance will help you to design your own interventions to drive change using social norms.

Examples of different types of social norms

To illustrate different types of social forms, here are some examples of social norms communication about how to deal with leftovers in a household context:

- "75% of households reuse leftovers" is a **descriptive norm**.

- "Reusing leftovers for other dishes is regarded as good housekeeping" is an **injunctive norm**.
- "Most people reuse leftovers" is an example of **static framing**.
- "More people reuse leftovers every year" is an example of **dynamic framing**.

Figure 4: Examples of different types of social norms

How do social norms fit within human behaviour overall?

Besides social norms, there are many other aspects influencing human behaviour. To better understand the degree to which social norms influence our behaviour, the CHORIZO Project has combined an agent-based decision model (HUMAT) with a behavioural psychological model (MOA). The MOA framework, first designed for marketing purposes (Rothschild, 1999), was adapted to analyse Motivation, Opportunity and Ability (MOA) factors affecting food waste behaviour for the EU Refresh project². The HUMAT model is used for modelling actor decision making and so is not referred to in this document. If you would like to learn more about the model and how it is used in the CHORIZO research, this can be found in the project's Conceptual framework for behavioural change understanding³.

The MOA framework is used throughout the CHORIZO project and in this document to understand on the one hand what hinders behaviour change, and on the other hand how interventions to reduce FLW can overcome these barriers.

In the MOA framework, aspects of motivation, opportunity and ability combine to determine if and how a person behaves in any given situation. In line with behavioural change scientists, we believe, that behavioural change is based on an interplay of these three factors. In this model, social norms come under the motivations category, meaning that, combined with attitudes and awareness, the level of motivation of an individual will be developed. For example, in the case of using up leftover food, if someone is aware that leftovers can safely be eaten (awareness), believe that they should reuse leftovers in order to save food (attitude), and see others cooking with leftovers (social norm), overall they are likely to have a strong *motivation* component towards their behaviour. In order for the person to actually behave in this way, however, there will also need to be the *opportunity* for them to do so (e.g. time to prepare the leftovers, the right cooking/storage equipment) and the *ability* to enact the behaviour (e.g. knowledge of a recipe to re-use the leftovers they have and the appropriate cooking skills to successfully prepare the meal). **Figure 5** sets out a visualization of the model and its components.

² <https://www.eu-refresh.org/>

³ CHORIZO Deliverable 3.1, available at <https://chorizoproject.eu/deliverables-repository/>

Consumers Food Waste Model

Adapted from Van Geffen et al., 2016 and CHORIZO D3.1 Conceptual Framework for behavioural change understanding, (2023), p12

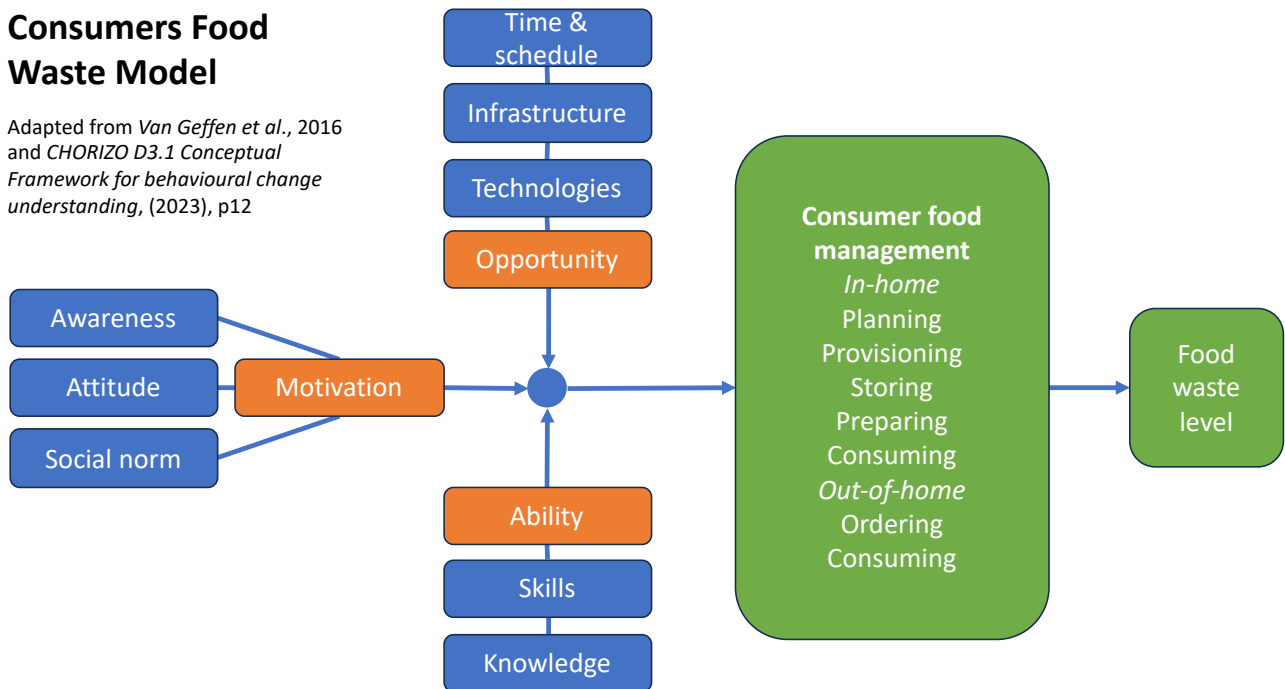


Figure 5: Consumers Food Waste Model, illustrating the MOA framework (including social norms) in the context of food waste behaviours (source: see figure)

Aspects of background, demographic or identity may affect the factors influencing behaviour of your target group members. In particular, gender may have an impact on the MOA. While CHORIZO research on FLW prevention actions did not find any existing interventions specifically designed to systematically incorporate the gender dimension (see Chapter 6 in Deliverable 1.2 *Evidence-based Analysis of Food Loss and Food Waste (FLW) Prevention Actions* for further information), we know that social norms can be differently developed or perceived by individuals depending on their gender. For example, there may be social norms in which gender affects who is expected to conduct food shopping, meal planning and cooking in the household. Additionally, CHORIZO case study research has identified some differences between genders in terms of perceived social norms and behaviours around food loss and waste. Relevant findings on gender are further discussed in **section 2.2**.

Of course, human behaviour is not deterministic. The existence of social norms does not necessarily mean that we also behave to conform with these norms. While some norms are helpful, others can lead to unhelpful outcomes (leading to negative societal, environmental or for other impacts).

If you would like to learn more about the models used in the CHORIZO project research, we suggest reading the Conceptual framework for behavioural change understanding⁴.

2.2. Why are social norms relevant to food loss and waste in food services?

The **food service sector** encompasses a wide range of businesses and organizations that prepare, serve, and deliver food and beverages to customers outside of their homes, also referred to as out-of-home consumption. It includes restaurants, catering services, hotels and hospitality, cafeterias and canteens, and takeaway services. Please note, that in addition to this resource, there is a separate dedicated guidance document to

⁴ CHORIZO Deliverable 3.1, available at <https://chorizoproject.eu/deliverables-repository/>

school food. If you are active in the food service sector in schools, we recommend also reading the guidance for schools. Additionally, information for retailers can be found in the overarching guidance document.

What is the impact of reducing food waste in food service?

In 2022, the EU generated approximately 59 million tonnes of food waste. The food service sector was responsible for around 11% of this total, amounting to nearly 7 million tonnes, or approximately 15 kilograms per person⁵. A global perspective from 2022 indicates that food services contributed to 28% of the total amount of food waste generated, translating to 290 million tonnes⁶. This highlights the substantial role of food services in food waste generation both globally and within Europe.

Figure 6: What is the impact of reducing food waste in food service?

Food loss and waste in the food service sector can occur in procurement and storage, food preparation, as plate waste, or as leftovers from buffets or self-service environments. In the food service sector, social norms influence on two levels, namely on **customers** and **service providers**, impacting food waste levels, customer satisfaction, and the overall sustainability of operations.

- **Service providers:** In the kitchens and among service staff.
 - Descriptive: By the rules and norms that kitchen and service staff follow to procure, store, and prepare food, as well as how they manage leftovers.
 - Injunctive: By using group identity and education to promote and establish values and behaviours for more sustainable practices among employees.
- **Customers:** By promoting more sustainable norms and behaviours among guests.
 - Descriptive: By setting up the environment and services, e.g. by changing buffet set-up or promoting take-away of leftovers.
 - Injunctive: By appealing to beliefs among guests that can reduce FLW, such as the inherent value of good food.

Addressing food waste and its surrounding social norms in the food service context is a complex undertaking, as it contains a mixture of descriptive and injunctive social norms and the contexts vary a lot. However, this complexity also results in many opportunities and potential entry-points to change social norms and incentivise more sustainable food-related behaviour change. The next section will outline examples to tackle the FW challenges by working with social norms in the food service context.

Gender and social norms:

As part of the CHORIZO case studies on hotels and food services, gender and other intersectional differences were considered in relation to social norms. The following findings (taken from CHORIZO Deliverable 2.3 Empirical Evidence Sensemaking) may help you to adapt actions in your own context in a way which incorporates gender and diversity.

- In the food services context:
 - Men prioritize larger portion sizes and tend to finish their plates, while women prioritize seasonal menu changes and are more likely to leave food uneaten when dining with company.

⁵ See https://ec.europa.eu/eurostat/statistics-explained/SEPDF/cache/110448.pdf?utm_source=chatgpt.com

⁶ See <https://www.eufic.org/en/food-safety/article/food-waste-in-europe-statistics-and-facts-about-the-problem>

- Males exhibit a greater tendency to struggle with over-eating when indulging in preferred foods.
- The data suggests that a slightly higher percentage of females (61.1%) leave less than a quarter of the plate as leftovers compared to males (50.9%). Conversely, a higher percentage of males (36.6%) leave none of their food as leftovers compared to females (20.6%) (refers to Figure 72 in CHORIZO D2.3). This suggests that, proportionally, more males tend to finish their entire meal without leaving any remnants.
- The majority (81%) foresees no change in the amount of food left on the plate when dining alone. Nevertheless, females show a slightly higher expectation of a decrease (12%) in the amount of food left on the plate compared to males (6.1%) when dining alone. This indicates that females may be more likely to leave more food uneaten when dining with company, compared to men. Nonetheless, these gender-specific variations are minimal and could also be influenced by a range of factors such as individual preferences, cultural norms, or perceptions.
- The hotels case study did not identify any relevant gender or cross-sectional differences.

3. Overview of relevant social norms in the food services sector

Through the food service (HORECA) case study, alongside research on FLW actions within the sector, the CHORIZO project has been able to compile a collection of social norms present in the food service setting. In the table below you can find identified social norms, with a short explanation about the social norm and the respective setting. Further, ideas on interventions to reduce food waste are highlighted. If you are running a canteen, please also take a look at our schools’ guidance document, since you might want to draw parallels from these insights.

The following table indicates in column 1 the area of action mentioned in the chapter above (service providers), as well as indicating social norms and approaches targeting specific contexts, where applicable.

| SETTING OR CONTEXT | SOCIAL NORM | EXAMPLE OF HOW THIS HAS BEEN OR COULD BE USED TO REDUCE FLW |
|--|--|--|
| Buffet behaviour <ul style="list-style-type: none"> ● customer interface ● canteen context | Plate size influences the amount of food waste <ul style="list-style-type: none"> ● descriptive | For a long time, it was assumed that a reduced plate size also leads to less food waste, with people eating smaller portions at once, and thus reducing the overall leftovers. However, in the Chorizo project, the intervention was tested with mixed results. Instead, it was found that increasing the size of the plate lead to less food waste. The reason was that in the tested scenario, people were more likely to take more portions in total with smaller plates, often taking more rounds than they could eat. Thus, it is recommended to test this in the case of your specific context. When testing, it is worth paying attention to queues and time limits, as they may impact group behaviour. |

| | | |
|---|--|--|
| <p>Buffet behaviour</p> <ul style="list-style-type: none"> customer interface restaurant context | <p>Charging for leftovers in a buffet restaurant</p> <ul style="list-style-type: none"> descriptive | <p>A social norm of charging for leftovers is emerging in some buffet restaurants in Germany, such as Yuoki in Stuttgart and Okinii in Düsseldorf. The intention is that economic pressure will encourage customers to consider more carefully whether they take additional food which they may not be able to finish eating.</p> |
| <p>Buffet Behaviour</p> <ul style="list-style-type: none"> service provider interface buffet context | <p>Good provider identity</p> <ul style="list-style-type: none"> injunctive, unhelpful | <p>With self-service there can be a tendency to feel the need to provide the guest with an extensive range of food options to be a “good provider”. It may be useful to ask your customers how much variety they expect, or develop messaging around why you reduced the options at play and how much waste is reduced by this action.</p> |
| <p>Messaging at breakfast buffet</p> <ul style="list-style-type: none"> customer interface hotel & buffet context | <p>SN Messaging on breakfast waste</p> <ul style="list-style-type: none"> static, dynamic, injunctive, descriptive | <p>Analysis from the CHORIZO hotels case study experiment⁷ on impact of messaging to guests in buffet settings and resultant food waste reveals that while the control group (no message) aligns closely with the overall waste average, positive messages seem to lead to reduced waste per guest (31.85g), whereas provocative messages seem to lead to increased waste per guest (51.76g). Make sure to also consider other potential influencing factors (e.g. month, hotel type or guest count). The experiment underscores the importance of carefully framing messages to avoid triggering reactions. The results suggest that no message may be better than a poorly constructed one. (CS2 – Hotels)</p> |
| <p>Table reservation and preordering</p> <ul style="list-style-type: none"> customer interface restaurant context | <p>Social acceptance of pre-ordering or repurposing ingredients</p> <ul style="list-style-type: none"> helpful norm still to be established | <p>Changing the social norm to normalize reservations and pre-orderings in restaurants allows more precise meal preparation which would reduce FLW. This could be increased by giving price reductions and incentives in case of pre-ordering.</p> |
| <p>Take left-overs home in boxes</p> <ul style="list-style-type: none"> customer interface restaurant & hotel context | <p>Establishing the norm to take leftovers home</p> <ul style="list-style-type: none"> descriptive (providing boxes) injunctive (feeling judged, unhelpful SN) | <p>From the CHORIZO food services case study data collection and analysis, we know that a significant majority of respondents would take leftovers home, even if they had to pay for the container. However, by openly promoting this action, food service providers can reduce leftovers even more. You make it even more easy for your customers to take their leftovers home, if you provide boxes for free, or provide circular containers.</p> <p>The social norms at play, such as being ashamed to take leftovers home or being judged to be greedy by other customers, is an unhelpful norm that reduces willingness to</p> |

⁷ See CHORIZO Deliverable 2.3 Empirical Evidence Sensemaking, available at <https://chorizoproject.eu/deliverables-repository/>

| | | |
|---|--|--|
| | | take home leftovers and increases food waste. (CS 2 & 3 Hotels & restaurants). |
| Using leftovers in meal preparation <ul style="list-style-type: none"> • service provider interface • hotel context | Sub-optimal Food/Undesirable Food Quality <ul style="list-style-type: none"> • injunctive | The SN of not buying, utilizing food in meal preparations, or eating it, due to “sensory deviations” such as unusual shape or colour. The interviews demonstrated that all the chefs have a strong sense of honour associated with their profession and the quality of their work. Only the best is good enough for guests. For example, the chefs questioned what guests would think about using leftovers or food past expiry dates for meal preparation, and thus deferred from doing so. |

Table 2: Relevant social norms, context, and the example in the food service sector

4. 8 steps to reduce food waste, including social norms insights in the food services sector

Interventions, actions or just initiatives are words that is often used when organisations want to achieve more effective operations. For instance when they want to address food waste and when they want to move from one set of routines to a more effective one. Traditionally such attempts are organised as projects in order to make sure the participants know what to do what to achieve and how to measure whether the objectives are achieved. At research level such attempts are normally referred to interventions, but the approach can be used in practise as well and is a way for the organisation to make sure that goals are reached. An important part of interventions actions and initiatives is the inflation. Here we present a general model for that can be used as a recipe.

The following 8-step guide is designed to break down the process of designing and implementing a food waste reduction intervention into manageable steps. Based upon tried and tested expertise from the behaviour change field, this approach is adapted from the Academy of Change framework⁸ and combined with CHORIZO research findings, case study knowledge and examples from the wider food waste sector.

Figure 7 shows the order of the steps to reduce food waste. The CHORIZO additions relate to the steps 3 and 4, enabling the inclusion of social norm insights in the intervention. Once you have put your intervention in place following step 1-7 and evaluated its impact, steps 4 to 8 can be followed again in order to refine the process for continual improvements in effectiveness. If you already have interventions in place and would like to refine the social norms elements in the process, we suggest that you focus on step 3 onwards.

⁸ See <http://achange.org/>

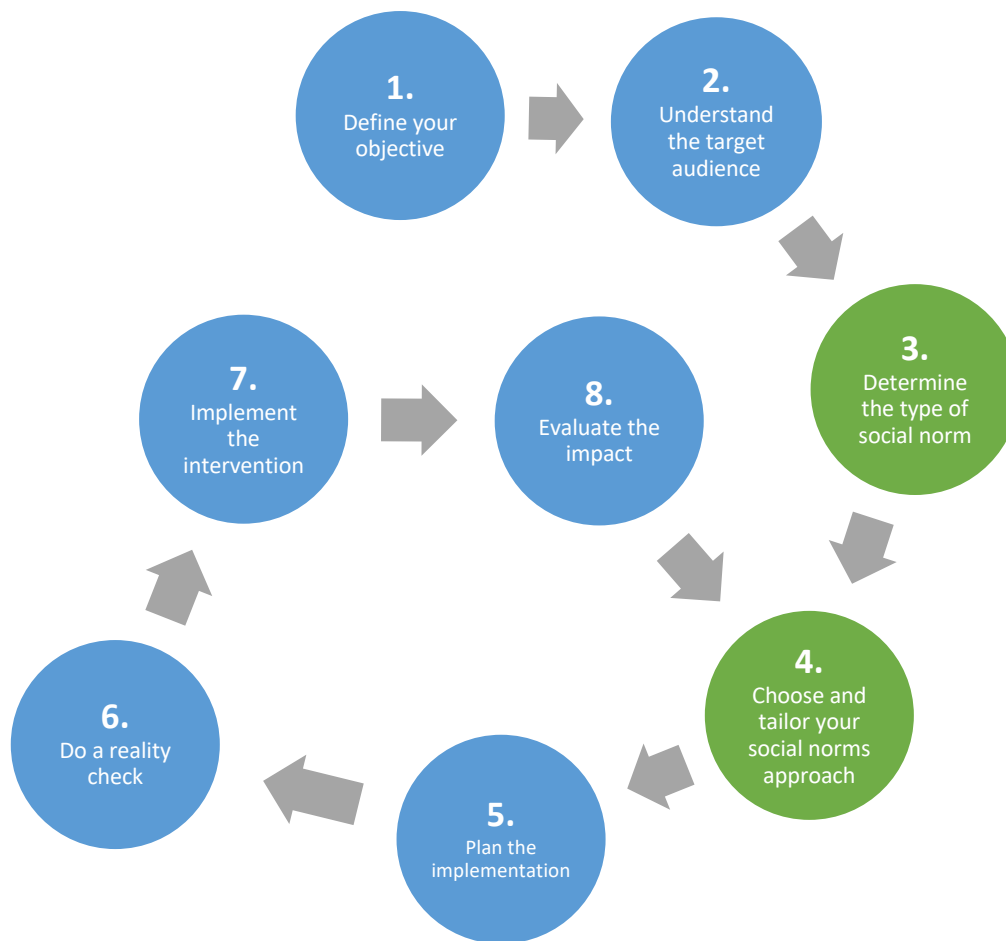


Figure 7: 8 steps to reduce food waste, including social norms insights (steps shown in green)

4.1. Step 1: Define your objective

In this first step, it's time to get clear about what exactly you aim to achieve with your intervention. To take action now, ask yourself the following critical questions:

What is the specific, tangible behaviour you're targeting?

Try to first focus on one specific behaviour you want to target as this makes designing an intervention more manageable, as the scale is not too big. It is easier to dive into the factors surrounding one particular behaviour, than to try to analyse a complex system of behaviours. To ensure that you are focusing on a behaviour rather than an attitude, see **Figure 8** for an overview of the differences.

Attitude-Action-Gap of food waste activities

Consider if you are thinking of a behaviour or an attitude. An attitude of believing that we should only take what we can eat in a hotel breakfast buffet is different to the actual behaviour of not overfilling the plate in practice. Attitudes may support behaviour but often are not enough on their own to reduce FLW effectively. For instance, someone might care deeply about sustainability but still choose convenience over environmentally friendly options (e.g. buying multipacks of food products because there is a deal in the

supermarket, while believing that we should only buy what we need to avoid waste). This is called the “attitude-action-gap”— the reality that people’s beliefs don’t always align with their behaviours, due to habits, social pressures, social norms or practical barriers. Recognizing this gap helps clarify whether influencing attitudes alone will achieve your goal or if your approach needs to address a behaviour directly.

Figure 8: Attitude-Action-gap of food waste activities

What influences your targeted, specific behaviour?

If you do have a specific, tangible behaviour in mind, then dive deeper—analyse the context around this behaviour. Map out the general influences, using a model like the MOA (see **figure 5** and **section 2.1**) to capture how various factors in the fields of motivation, opportunity and ability connect and impact upon your objective. Be specific and thorough; it will strengthen your intervention strategy. In this step, try to think in general terms about the MOA of this behaviour in society. In step 2, you will dive into the MOA of your target group more specifically.

How would you like to change the behaviour with your intervention?

Try crafting a clear, detailed objective: define exactly what you want to change in this behaviour and what the desired impacts should be. The more concrete you are, the easier it will be to follow the next steps effectively.

4.2. Step 2: Understand the target group

With this second step we dive even deeper into the context of the targeted behaviour to define and understand the target group you have in mind.

What do you know about your target group?

Remember the MOA Framework introduced in **figure 5**? You can use the framework to understand the motivations, opportunities and abilities of the targeted group. The following questions may help you to navigate the MOA framework by adding in specific considerations which are of relevance to your target group:

- What is your target group’s **motivation** to engage with a new behaviour or to elaborate a new social norm?
- Do the target group have the **opportunity** to take the action? Is there a supporting infrastructure in place, physically and socially?
- What **abilities** do they need in order to enact and establish the behaviour? Consider how existing skills and abilities may differ across a diverse target group.

If you are struggling to answer the questions above, further research on your target group may help. There may be existing evidence or knowledge from other actors in the sector (including, for example, CHORIZO project resources), or gathering your own additional data may support this understanding (e.g. through surveys or interviews with the target group).

Knowing your guests: example from food services

Insights from the CHORIZO case studies confirm that many factors influence guest and food waste behaviour in a buffet context. In order to reduce FLW, it’s of great help to know your guests and if their behaviour changes over times of the year and week. Make sure to consider all potential influencing factors (e.g. month,

hotel type, guest count, business or private stay, travelling alone or in group). Also, people tend to get inspired by other guests and copy their behaviour. This might amplify effects.

Figure 9: Knowing your guests: example from food services

4.3. Step 3: Determine the type of social norm

Social norms are both a reflection of common behaviours within a group and powerful tools for driving change. Observing norms helps reveal what people already do or value, and strategically highlighting these behaviours can encourage broader adoption. Understanding which type of social norm you are working with will help to tailor your approach and therefore bring a FW intervention to the next level of impact.

Descriptive norms show widespread behaviours, such as “most households reuse leftovers” while *injunctive norms* reflect what a group considers the right action, like “our community values wasting less to protect resources”. Deciding whether it will work best to use *static framing* around existing behaviours, like “Most people plan meals to avoid waste” versus *dynamic framing* around growing trends like “More people each year are joining the movement to reduce food waste” will make your message resonate even more.

Gather the information you have already brought together on the 1) target behaviour, 2) influences on the behaviour, 3) specific desired change in the behaviour through your intervention, and 4) the motivations, opportunities and (cap)abilities of your target group. With this information, consider the potential relation of social norms to each:

- 1) **Target behaviour** – is there already a relevant social norm mentioned in **section 3** which is known to relate to this kind of behaviour? If not, consider what else may be a norm in the context upon which you are focusing.
- 2) **Influences on that behaviour** – consider the environment in which the behaviour takes place. What are the factors which might affect whether someone behaves in this specific way or not?
- 3) **The desired change in the behaviour through your intervention** – consider whether the desired change is either a) a wish to make a certain behaviour itself a norm (e.g. taking home a ‘doggy bag’ of leftovers from a restaurant if you don’t finish your meal), or b) influenced by social norms which exist around the behaviour and contribute to its uptake (e.g. the behaviour of over-providing for guests when hosting a dinner party is influenced by the social norm of a good host being seen as providing multiple different options and more food than is needed).
- 4) **The motivations, opportunities and (cap)abilities of your target group** – map out the MOA of your target audience (those who do/would conduct the behaviour in question) especially focusing on what motivates the target group to perform certain behaviour related to food waste. The social norms are the influencing factors to the motivation. Social norms are most likely to be found in the motivation section (see CHORIZO Deliverable 3.1 *Conceptual Framework for Behavioural Change Understanding* for further information).

With this information, you should have been able to identify a specific social norm or norms with which you can work, in order to change the desired behaviour (whether directly or indirectly).

Targeting staff or customer behaviour? Example from food services

The “good provider identity” is a social norm at play among service providers and staff, whereas enforcing the norm of “taking leftovers home” is rather targeting customers, but with boxes to take the leftovers home provided by the staff. Focusing on the specific behaviours of the different target groups will help plan an effective intervention. It’s always a good idea to make the desired behaviour as easy and as socially accepted as possible, for example by providing take-home boxes by default to every table without request – but in this case that requires targeted social norms from both staff and customers.

Figure 10: Targeting staff or customer behaviour? Example from food services

At this point it is also important to be clear on whether the norm(s) are *helpful norms* which you are looking to support to have a bigger influence (e.g. those which already contribute to lower FLW behaviours but are not yet routine or mainstreamed in your target group) or *unhelpful norms* which reduce the likelihood of the FLW behaviour taking place (e.g. something which influences individuals towards another behaviour than the socially desirable one, or which makes the FLW behaviour less likely or impossible). Examples are given in **section 2.2**. By identifying this, you know whether your intervention should seek to a) build and support an existing social norm or norms, or b) change or reduce the influence of an existing social norm or norms.

4.4. Step 4: Choose and tailor your social norms approach

Now that you have identified social norms that can influence behaviour, it’s time to design your intervention plan by choosing your approach. Referencing **sections 2.2 and 3** for additional evidence-based insights as you create your intervention plan. Using varied communication strategies—whether static, dynamic, or changing the ‘environment’—can help reinforce and spread desired behaviours (for more information see **section 4.5**).

To effectively use social norms to reduce food waste, consider these three approaches, how they can be used and the potential for tailoring, based on the CHORIZO project’s learnings:

1. **Reinforce Existing Norms:** If an appropriate social norm around reducing waste already exists, emphasize it to strengthen commitment. Reminding people can for example happen like “most people in our community already avoid food waste” and can build on this established behaviour.
2. **Create New Norms Through In-Group Values:** When a norm is not yet present, it should be built by aligning it with in-group values. For instance, messaging like “In our community, we believe in reducing food waste to support sustainability” can shape waste reduction as part of the group’s identity.
3. **Establish Norms via Environmental Cues:** Modify the environment to signal desirable behaviours. Visible prompts, such as signage promoting meal planning or providing compost bins, illustrate that reducing waste is common here, encouraging others to follow suit.

Establish Norms via Environmental Cues - Take-home boxes: example from food services

Taking leftovers home from a restaurant becomes more and more established. It’s always a good idea to make the desired behaviour as easy and as socially accepted as possible, for example by providing take-home boxes by default to every table without request. Train the staff to make it a norm for them to ask all customers if they want to take their leftovers, or just put a box automatically to each table. With this, any customer feelings of shame or perceived greed might be reduced, because more customers also take home their food.

Figure 11: Establish Norms via Environmental Cues - Take-home boxes: example from food services

By tailoring these approaches—reinforcing, creating, and establishing norms—to specific communities and behaviours, social norms can inspire and drive lasting change in achieving zero food loss and waste.

4.5. Step 5: Plan the implementation

Now it is time to devise a plan for implementing the intervention by considering the following three **key Steps for Designing an Effective Plan**:

1. **Define setting, delivery and timing:** Determine *where, how, when* and *by whom* your intervention will be communicated to the target group/audience. Find the best setting: in which location or situation can you get closest to the target behaviour? What is the right place and time to reach your target audience? Interventions can be targeted communication at points of action, appealing to people's identity, or altering the choice environment (the space or set of conditions in which they make a decision). When is your target audience most receptive? What are their relevant moments of change (e.g. is there a seasonal point when people already take action in this field)? Target locations where waste behaviours are most relevant—like meal prep areas or trash disposal points—and time your intervention when people are most receptive, such as before meals. How will you communicate your intervention? See **section 2.1** for the different ways in which norms can be expressed. Anticipate challenges and adapt plans as needed to overcome potential obstacles, such as practical barriers to running an intervention in a specific location, or the target group's lack of capacity to focus on something new at busy times of year.
2. **Identify Tools and Add Fun Elements:** Use tools like *nudging, self-commitments, or gamification* to engage participants. For instance, place reminders near waste bins or introduce rewards for reducing waste. Make the initiative fun and memorable—use engaging visuals, creative prompts, or interactive elements to boost participation.
3. **Collaborate for Greater Impact:** Team up with diverse partners to broaden reach and share resources. Collaborating with unexpected allies—like local businesses, schools, or community groups—can amplify the intervention's effectiveness and encourage a community-wide commitment to reducing waste.

Creating new norms with carrot or stick? Example from food services

To reduce the excessive plate waste by their customers, some German restaurants, such as Yuoki in Stuttgart⁹ and Okinii in Düsseldorf¹⁰, started **charging for leftovers** emerging in their buffet restaurants and created a new norm with this.

Other restaurants tested the approach of **price reductions and incentives for reservations and pre-orderings** that allowed them more precise meal preparation to reduce FLW. With this they want to normalize reservations and pre-orderings.

Figure 12: Creating new norms with carrot or stick? Example from food services

⁹ See <https://www.yuoki.de/>

¹⁰ See <https://okinii.de/standorte-bu/dusseldorf/>

By carefully coordinating these steps, your intervention can promote lasting change, making food waste reduction a shared, impactful effort.

4.6. Step 6: Do a reality check

Before launching your intervention, it's essential to do a reality check to ensure it is as effective and user-friendly as possible. This step helps identify any obstacles that could hinder participation and allows you to refine your approach for maximum impact.

1. **Make It Easy:** Simplify every step. Remove barriers, streamline interventions, and, if possible, eliminate unnecessary choices to guide participants naturally toward the desired behaviour.
2. **Choose Clear Language:** Use accessible, relatable language, avoiding overly technical or distant terms. Language should connect with the audience and reflect shared values, making it easy for others to support and spread.
3. **Did you think of everyone?** Consider whether your approach is truly inclusive. Are there potential biases, like assuming certain cultural norms or access to resources? Tailor your plan to include diverse perspectives (considering e.g. gender, disability, socio-economic background and other factors) and adapt it as needed to make sure no group is overlooked.

No messaging might be better than a wrong one: example from food services

Analysis from the CHORIZO hotel case study experiment investigated the impact of different types of messaging to guests in buffet settings and resultant food waste. The results revealed that while the control group (no message) aligns closely with the overall waste average, positive messages seem to lead to reduced waste per guest, whereas provocative messages seem to lead to increased waste per guest. Make sure to also consider other potential influencing factors (e.g. month, hotel type or guest count). The experiment underscores the importance of carefully framing messages to avoid triggering reactions. The results suggest that no message may be better than a poorly constructed one.

Figure 13: No messaging might be better than a wrong one: example from food services

Conducting this reality check ensures your intervention is clear, simple, and inviting, ultimately making it more likely to achieve meaningful change by many people.

4.7. Step 7: Implement the intervention

Now it's time to bring your plan to life! Implementation is all about making your intervention visible, accessible, and impactful. To ensure your plan reaches people effectively in the right place and at the right time, keep these steps in mind:

- **Prepare Your Resources:** Confirm locations, timing, and materials to make sure your messages and tools are available exactly where and when people need them.
- **Coordinate with Your Team:** Align everyone involved, so they're prepared to answer questions and make adjustments on the go. Plan in time for feedback talks.
- **Start with a pilot:** Testing in smaller settings first can reveal what works best, letting you refine and scale up smoothly.

- **Stay Flexible:** Watch how people respond, and be ready to adapt! If certain elements are more engaging than others, adjust your approach to enhance impact.

A well-implemented plan brings your ideas to action, helping people connect with the message and inspiring them to reduce food waste.

4.8. Step 8: Evaluate the impact

Evaluating impact is crucial to see if the action you took truly made a difference. This step focuses on measuring real behaviour changes and understanding the broader effects of your intervention.

Here's a guide to effective evaluation:

- **Define Key Metrics and Collect Evidence:** Set clear measures like waste volume reduction, participation rates, or uptake of new habits like meal planning. Combine this quantitative data with feedback to provide you a full picture.
- **Measure Behaviour, Not Just Attitudes:** Track real actions (like reduced waste) instead of relying only on survey responses. This helps address the *attitude-behaviour gap*, where people's stated values don't always align with their actions.
- **Monitor for Rebound Effects:** Monitor whether reduced waste in one area causes increased waste elsewhere, helping you avoid unintended consequences.
- **Tailor Evidence to Your Audience:** Think about who you need to convince—community members or stakeholders. Collect the evidence they'll find most compelling.

Professional food waste management at Strawberry hotels: example from food services

Chorizo project partner Strawberry set up a food waste measurement bin, that differentiates between plate waste, preparatory waste and other, giving clear numbers. They display the average plate waste per person from week before and the actual week to their guest at the buffet. With this messaging they increasing awareness, but also unconsciously challenge their guests to be "better" than the guests of last week in terms of plate waste. Still there are many factors in play that are hard to foresee, such as how long a specific messaging on the buffet has to be in place in order to measure reliable data, where a change in behaviour can be significantly brought back to this kind of messaging.

Figure 14: Professional food waste management at Strawberry hotels: example from food services

By tracking outcomes and refining your approach based on real-world results, you can enhance the long-term impact of your interventions.

5. Additional resources and support to implement interventions

Have you now read the guidance and find yourself feeling inspired but not sure where to get started? Don't worry - in 2025 we are running a European capacity building programme designed specifically to help you put these words into action!

The online and physical workshops will provide you with practical skills, examples and tips to design your own behaviour change intervention using fresh findings from the CHORIZO project and the relevant tools to use social norms in the reduction of food waste.

Sound good? Sign up to the [CHORIZO newsletter](#) to hear about the latest information and capacity building registration.

Additionally, the [CHORIZO Insider Data Hub](#) contains a whole range of data collected through the project's case studies and research on FLW and social norms. Feel free to request relevant data for use in designing your own interventions.

CHORIZO Project Deliverables and resources

- CHORIZO Deliverable 3.1 (2023), "Conceptual framework for behavioural change understanding", available at <https://chorizoproject.eu/deliverables-repository/>
- CHORIZO Deliverable 1.2 (2023), "Evidence-based Analysis of Food Loss and Food Waste (FLW) Prevention Actions", available at <https://chorizoproject.eu/deliverables-repository/>
- CHORIZO Deliverable 2.3 (2024), *Empirical Evidence Sensemaking*, available at <https://chorizoproject.eu/deliverables-repository/>. (Accessed 29 January 2025)
- CHORIZO project *Food Loss and Waste (FLW) Datahub and "Insighter"*, available at <https://data.chorizoproject.eu/>. (Accessed 29 January 2025)
- CHORIZO project *newsletter sign up form*, available at https://chorizoproject.eu/dissemination_and_newsletter/. (Accessed 29 January 2025)

Literature

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Websites

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