



**IMPROVE YOUR DAILY
BUSINESS AND
#REDUCEFOODWASTE**

**GUIDELINE FOR THE RETAIL SECTOR
2019**



Title: Improve your daily business and #reducefoodwaste – Guideline for Retail sector 2019

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TAKING **COOPERATION** FORWARD

ABOUT THE PROJECT

STREFOWA – Strategies to Reduce and Manage Food Waste in Central Europe is a three-year project in Central Europe to find and design new ideas dealing with food waste. Our aim is to reduce food waste or to treat it in a better, more useful way, along the whole supply chain.

>>> reducefoodwaste.eu

FOREWORD

“The system of nature, of which man is a part, tends to be self-balancing, self-adjusting, self-cleansing. Not so with technology.”

(E.F. Schumacher – The Economist)

“Nowadays, food wastage is one of the key paradoxes existing in our world. While one-third of the food produced globally will never be consumed, millions of people are starving. Food losses occur at all stages of the food chain – from the stage of harvest, production to trade and households. With the wastage of food, the resources spend to grow the produce were also used in vain.

In addition to sustainability considerations, food waste raises ethical issues. Why are we throwing away food that was produced for human consumption? Not only a nation’s wealth determines the amount of their food waste, education and collective consciousness are also powerful factors.

Do you know that you need 13–15 thousand litres of water to produce one kilogram of beef? Additionally, with the decomposition of food, methane emissions are generated which has an impact on climate change.

Although the variety and amount of purchasable goods has significantly increased over the last 30 years, it also has many associated disadvantages, such as the growth of wasted goods.

All sectors of the food chain can prevent food waste generation, including the retail sector. While the percentage of waste created in this sector is lower than in the other sectors, the educational opportunity and possibility for positive change is almost the highest with consumers.

The European Parliament has already adopted a regulation against food wastage. The European Member States have to reduce their food waste by 50 % by 2030. We – the retail sector- can also do our best to help achieve this goal.”

(Csilla Zombory – SPAR Hungary Ltd.)



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ABOUT THIS GUIDELINE

The lifecycle of food ideally follows a continuous circle. Food gets produced, harvested, processed, marketed, distributed, purchased, consumed and managed as waste. This entire lifecycle is also called the food supply chain, with each step in the chain represented by a separate sector: primary production, food processing & marketing, retail, food service and consumers and waste management.



Figure 1: Food Supply Chain

Along the entire food supply chain – in each step and each sector – food is wasted, e.g. on the field during harvest, broken or spilled in the processing, left over in retail and food service and not consumed by final consumers. Food waste is therefore not a problem of one single sector; it is rather the cumulative effect of interlinked conditions. As the sectors often work hand in hand and interact in many ways there is a high potential to tackle the problem of food waste. Solutions encompassing several sectors or even across the entire food supply chain should be considered. Food, which might not be able to be used in one sector, could be an interesting resource for another one. This cross-sectoral cooperation is a core aspect of this guideline.

The guideline points out the aspects of individual responsibility and possible adaptation among one's own business. It shows internal and external reasons and problems causing food waste in a defined sector. Benefits, which are not exclusive for one specific sector, are collected. All presented ideas, sector specific and cross-sectoral ones, represent possible solutions how food can be used and treated instead of being wasted. This guideline deals with all kind of food products.

THIS GUIDELINE AIMS:

- to raise awareness and a better understanding of the quality of produced food
- to show problems and reasons why food waste is happening
- to provide various solutions helping to reduce food waste

BENEFITS OF TAKING ACTION AGAINST FOOD WASTE AS FARMERS

- Regional value creation
- Consumer education / awareness raising
- Food sovereignty
- Higher cost-efficiency in production
- Ecological benefits
- Climate protection
- Renewable energy production



ABOUT FOOD WASTE

WHAT IS FOOD WASTE?

Food is defined as any substance — whether processed, semi-processed, or raw — that is intended for human consumption including any substances that have been used in the manufacture, preparation, or treatment of food, excluding drinks.

Inedible parts = unavoidable food waste refers to components associated with a food that in a particular food supply chain are not intended to be consumed by humans. This is food thrown away that has not been edible under normal circumstances for most of the inhabitants. Examples could include bones, rinds, or pits/stones. On the contrary, avoidable food waste comes from originally edible parts.

Food waste (including food loss) refers to food as well as associated inedible parts removed from the food supply chain. That means they are not used for normal human consumption.

Inedible parts (Bones, skins...)

Preparation residues (skins, ...)

Consumption residues

Partially consumed food

Entirely uneaten food (as purchased, whole, unopened)

Non-avoidable

Non-avoidable

Avoidable

Avoidable

Avoidable

WHERE DOES THE FOOD WASTE OCCUR?

Food waste occurs along the entire supply chain; wherever food is produced, processed, traded or used.

WHAT AMOUNTS ARE WE SPEAKING ABOUT?

Exact amounts of food waste are not known, as reliable data is scarce, due to data collection difficulties. Estimates range from 20–30 % loss of our total food production. Some countries waste up to about 50 % of food production. Despite the inconsistent data situation, food waste is present in all areas of the food supply chain, with visible impacts.

WHAT ARE THE CONSEQUENCES OF FOOD WASTE?

Food waste accounts for 3.3 gigatons of CO² emissions (cf. FAO, 2011). Huge quantities of water in production and processing are wasted on unconsumed food; moreover, food production uses large areas of agricultural land. Consequently, this causes negative impacts on biodiversity, soil, ground water and much more. From an economic point of view, both the direct and indirect costs of discarded food must be considered, e.g. caused by superfluous transport, infrastructure etc.

WHAT IS BEING DONE ABOUT IT?

Every nation has individual legal acts which directly or indirectly lead to as well as prevent the generation of avoidable food waste. While hygiene guidelines, packaging standards and market norms will often lead to increasing food waste amounts, food donation regulations can help decrease the amounts wasted. In addition, public and private food waste prevention and management activities aim for reducing food waste via practical implementations or education, covering different areas, target groups or food types.

Despite these efforts, the food waste problem still exists and further steps need to be taken – in all sectors. In a first step, the problem needs to be considered in detail and ideas and approaches have to be developed.

Individuals as well as groups can become active in their working environment and their communities. This guideline does not represent a general viewpoint but addresses parts of the supply chain to highlight practical approaches.



FACTS & FIGURES ABOUT FOOD WASTE

Due to globalization of the market and changing lifestyles as well as consumer's behaviour, the demand for butcher's meat, fruits, vegetables and other rapidly perishable products is increasing. Therefore, the food chain has gradually become more complex over the past decades.

Despite the inconsistent data situation, food waste is present in all areas of the food supply chain with visible impacts. It is estimated that one third of the food produced globally for human consumption — approximately 1.3 billion tonnes — gets lost or wasted every year (FAO, 2011). Only in the European Union around 88 million tonnes of food is wasted annually with costs estimated at 14.3 billion euros (FUSIONS, 2016). The retail sector is responsible for approximately 5 % of the total food waste generated in Europe. However, the responsibility of the retail sector is bigger than their food waste rate shows since retailers can indirectly affect the increase or decrease of food waste amounts in other sectors as well.

The interest of all retailers has to be waste prevention – which refers not only to food waste. This should be a priority throughout all departments in the retail food chain. Retail can contribute to food waste prevention already in the purchasing department e.g. by not focusing too much on perfect produce in terms of size or form. This avoids food waste in the agricultural sector. An increase in donation capture rates could be accomplished with establishing active donation programs.

CONSEQUENCES AND PROBLEMS

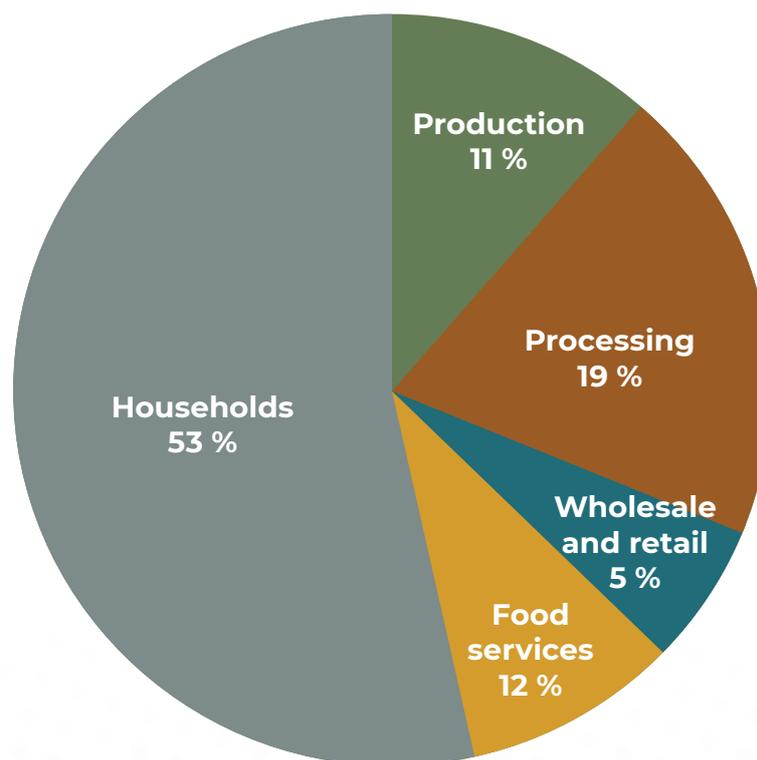


Figure 2: EU-28 food waste in 2012 by sector; includes food and inedible parts associated with food (FAO, 2011)

The last possibility is proper waste management and food utilization. This depends on specific conditions; nonetheless many methods of food processing are available: recycling, composting, biogas utilisations, etc. Food waste generates considerable costs for all actors of the food supply chain. It is necessary to look for the best opportunities that both increase profits and reduce the amount of food waste at the same time. Food waste is a tangible, highly visible problem gaining public attention. It affects retailers' reputation with customers, employees, and investors, and can impact re-

tailers' brands (Rethink food waste (ReFED), 2018). Therefore, consumer education campaigns should be given special emphasis by retailers.

Retailers have direct connection with all of the actors of the food supply chain. Based on the common system, retailers purchase food products from the wholesalers or distributors.

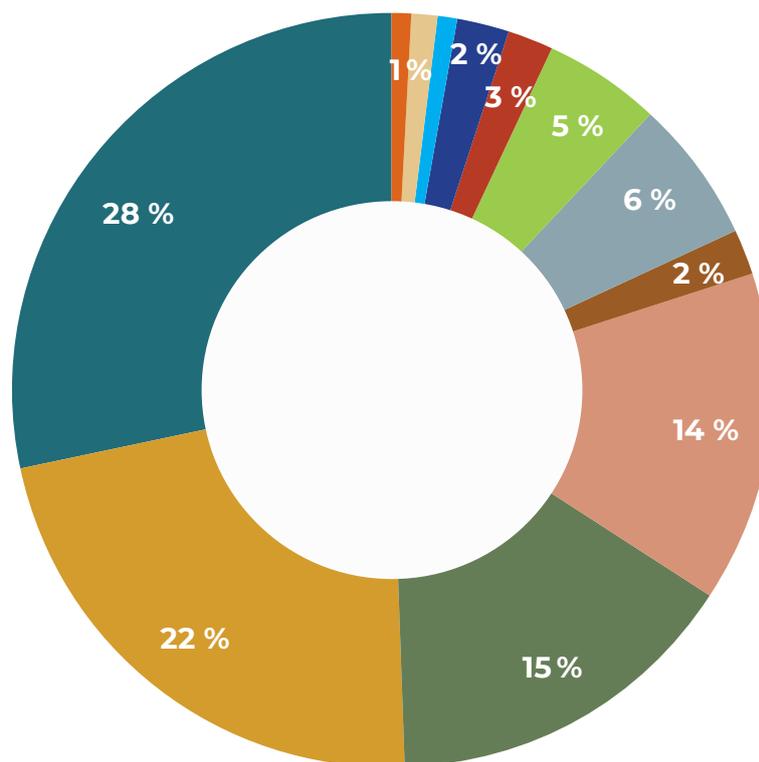
ACTORS OF THE FOOD CHAIN



The Retail sector includes shops, warehouses, but also wholesalers, distributors and the food processing part of shops (e.g. butcher shops).

In the retail sector, the highest amount of food waste results from unpackaged food. These foods – mainly vegetables, fruits and bakery products – are more influenced by physical, chemical, microbiological contamination and varying temperatures along the distribution, storage and sale chain. However, the option to sell the unpacked fruits and vegetables to further actors of the market may lead to food waste reduction in the retail sector because of different handling of the products and storage requirements (e.g. shelves containing food are not exposed to light and warmth).

SUMMARY OF RETAIL FOOD WASTE BY FOOD TYPE



- 1 % Sweet / Cookies
- 1 % Pasta / Rice
- 1 % Frozen products
- 2 % Special diet
- 3 % Alcohol
- 5 % Cooking Additional
- 6 % Drinks
- 2 % Meal
- 14 % Meat, Fisch, cold cuts
- 15 % Dairy
- 22 % Vegetable and fruits
- 28 % Bakery

Figure 4: Retail food waste shares by product type (Source: TESCO, 2018)



REASONS: WHY FOOD BECOMES FOOD WASTE

Along the food distribution system, we can identify 5 different stages where food waste occurs.

1. Food waste firstly appears at the point of delivery. Based on the product's specifications, a number of requirements have to be met in order to enable further processing:
 - temperature
 - appearance
 - intact packaging
 - absence of impurities
 - fragrance
 - adequate "best before" and "use-by" expiration date
 - chemical-free
 - suitable wrapping
 - labeling by law
 - no transport damages

The food must be complying with these conditions at the receiving phase; otherwise, it will be refused. These products are transported back to the producers or distributors, consequently creating food waste. However, in this stage of the food supply chain logistics, retailers can greatly influence the decrease of food waste in the primary production and food processing sector.

2. The second point of risk is the **commission stage (order picking stage)**. The employee can measure/collect the products for the demands made by retailers at the stocks/warehouses. At this point, the employee can decide if the products are good for distribution or not.
3. The next step is the **distribution to the retailers**. Some retail businesses assess the quality of products at the moment of receiving their orders, therefore strive to avoid food waste at this phase. Those retailers, who have central logistic warehouses, check food at the warehouse level, in other cases at the retail stores. Retailers often use the principles of Hazard Analysis and Critical Control Points (HACCP), which means a systematic preventive approach to food safety and the control of the cooling chain.
4. The next step, where food waste occurs, is **storage and shelf placement**. Food waste reduction and prevention can be achieved by proper maintenance of the cooling system, the right handling of products and storage. Despite the compliance with these rules in both places (storage and shop), food gets into direct contact with the customers in the shop, where small mistakes or negligence could mean big problems in terms of food loss.

The reasons why food waste occurs at the retail sector might differ from store to store. However, some of the most common reasons are listed below and could be separated into four different groups.

LOGISTIC PROBLEMS

- lack or improper action planning and timing
- improper storage such as interrupting the cooling chain
- improper handling of goods
- insufficient supply of goods in relation to the expected demands
- inefficient inventory system and inventory management

- not tracking stock durability dates
- not optimal or close to closing hours replenishing of fruits, vegetables, and pastry
- lack of precision and attention of the workers

PRODUCT'S PROPERTIES

- high standards imposed on suppliers / appropriateness of the product quality
- inadequate pricing
- bad packaging, improper labeling
- oversize food packages or wrong sale actions
- visible impurities, deterioration
- withdrawals from the manufacturers (e.g. in case of produce's modification)

SOCIAL ASPECTS AND CONSUMER ATTITUDES

- lack of awareness of the sustainable use of unsold food/ donations
- demand for wide range of high quality products all day long, whole year long
- unpredictability of customer's behaviour (e.g. depending on weather conditions at the weekend) as products are ordered one week in advance



REASONS: WHY FOOD BECOMES FOOD WASTE

There are many factors influencing food waste generation in the retail sector, such as planning and organisation of purchases, storage areas, etc.

In order to find the most suitable solution, cooperation among all sectors of the food chain is necessary (Figure 5: Cooperation within the food chain). A continuous search for new solutions for all previously mentioned reasons is important to reduce food waste. To do so, all legal regulations and liability issues have to be taken in account.



Figure 5: Cooperation within the food chain

The stakeholders who play a role in cooperation are suppliers, producers, local or state governments, food banks, IT developers, waste management companies, etc.

WHAT CAN I DO TO REDUCE FOOD WASTE?

The responsibility of the retail sector is bigger than their 5 % food waste rate shows. The first aim should be prevention alongside with right stock management, storage, cooling chain, handling, etc. These prevention measures are listed further in the text. Furthermore, progress can be achieved by continuously informing customers and spreading awareness raising and education. In case measures are already implemented, a regular evaluation and adaptation strategy is still needed. These prevention measures are listed below.

Measure it!

Enhanced demand forecasting: the starting point is to get to know the demand situation and identify the weak spots. This step is also important in order to create an efficient plan for proper food supply and timing based on real demands.

Assortment measures: offer a wider range of products during weekends, which are peak shopping periods, and deliberately reduce assortment during the week.

Upgrade the IT-systems

IT-systems are a smart and comprehensive solution for keeping track of expiration dates, whether dealing with special or standardized date labeling. The role of IT systems should be considered from the very beginning of produce's life span, since producers are responsible for packaging and labelling. In order to facilitate new techniques of donations, waste management, etc., it is crucial to develop bar code or QR code systems that carry expiry dates and other important information, not just the price.

Reduce handling

Less physical movement of produce has proved to be a low-cost and effective solution to the prevention and reduction of produce damages. This ensures that more products arrive to stores in a sellable condition. Applying this approach to in-store merchandising (e.g. offer produce in original boxes versus creating a pyramid arrangement of produce; posting "don't touch/handle with care" sign for customers) also helps reduce food waste in retail.

Sorting

Food waste can be prevented by the supervising staff at store departments. Correct sorting is a good opportunity to reduce food waste in stores (e.g. in the past, when an iceberg lettuce had a brown leaf, the foil was removed, the leaf torn off and the head rewrapped, now due to self-service the entire head is disposed of).

Apply the "first in - first out principle" (FIFO)

If the FIFO principle was implemented when stocking the shelves, the amount of generated food waste could be decreased. FIFO is intended to promote the selling of oldest products first, preventing them from going to waste.

Transportation

Retailers can choose between different possibilities of transportation systems for their orders (e.g. decreasing the distance of the route, choosing better quality/bigger transportation vehicle, etc.). Considering the output streams of impacted food, retailers should try to manage waste in a beneficial manner for the environment and society, therefore human and animal donations are the best option. The most important thing about donations is strong relations with charities and food banks, since they organise the transportation of donated products. On the other side, when products are already assigned the waste status, it is necessary that the best waste management technology considering transportation systems is implemented.

Cold chain management

Organize and optimize storing of perishable products. Use refrigerated shelves for fruits and vegetables, with correctly adapted cooling temperatures. Get air moisturizes for the vegetable section; they will look better, sell better, and hold longer.

Packaging

Unpacked food is wrongly considered to be fresher and more environmental friendly by consumers. Packaging can be helpful to preserve food quality and durability. Packaged food therefore contributes to

the decrease of food waste amounts; however, it increases the amounts of packaging waste. Otherwise, in countries with appropriate waste collection system, this shouldn't be a severe environmental issue.

Awareness raising

- Educate consumers to choose not only products with the longest expiration date, products with the closest expiration dates, wonky looking vegetables or the end of the cold cuts are also good etc.
- Clarify the “best before” and “use-by” dates with the customers and raise awareness about real food safety issues as well as fears resulting from missing consumer's knowledge.
- Encourage for awareness shopping (e.g. “If you use it today, choose products with close expiration dates!”).
- Conscious reduction of discount offers (e.g. Buy one and get one free).
- Identify and educate proper storage conditions (e.g. optimal food storage, benefits of the freezing food).
- Suggest innovative food use (e.g. new menu and recipes how to use and easily prepare products with close expiration dates).
- Continuously educate and organise training for employees.

Good planning

Dynamic pricing: apply smart price reduction systems for products in order to sell them on time and plan proper sale actions. Sell discount goods that are approaching their USE BY and BEST BEFORE date (depending on the country's law). Conscious planning in order to prevent food wastage is indispensable at the retail sector and it is affected by periodicity and seasonality (different holidays, summertime, etc.).

Online supermarket

This type of food selling can help reduce the number of steps and amount of time which is necessary for the products to move through the supply chain, by delivering products straight to the consumer from the distribution centre of the retailer. When the consumer places an order, the order can be processed and delivered directly. This practice eliminates quality loss due to handling of food both from employees and consumers in the stores, and can avoid date picking of long-lasting products.

Processing of produce

At least in larger stores further processing of fruits and vegetables is a good alternative to prevent food waste. If there are first pieces getting bad the remaining fruits or vegetables still can be used to e.g. prepare fruit salad or sliced pieces of vegetables ready for cooking which even can be sold to higher prices than the original produce.

WHAT TO DO WITH FOOD I CAN'T USE MYSELF?

Donate food for human consumption

The retail sector should seek closer cooperation with NGOs that distribute surplus food from retail stores and distribution centres to people in need. Depending on the countries of Europe and the legislative surroundings, food donations are becoming the preferable choice for retailers and the amounts donated are steadily rising. Due to the strict food safety regulations, food donations are not possible after the expiration of “best before” date. In Hungary for example, these goods are forbidden to be sold and are therefore accounted as waste (in the shops). Good examples can be found in some other EU countries and many countries worldwide where the food products with expired “best

before” dates are not excluded from the food supply chain (e.g. in Austria). Still, there are some international examples of the liability issues.

In terms of food donation mechanisms, two factors are mainly important for the retail sector. First, the adherence of food safety regulations and second, possible negative financial impacts of food donations e.g. in some EU member states the existing tax system makes donations more difficult.

Food should always reach charities/foodbanks in the shortest time possible; therefore a well-organized logistic system is needed. In general, the charity organisation establishes the connection between the manufacturers, retailers and the charities/foodbanks with exact place handovers, demand, etc.

Cooperate with small businesses

Food surplus can be used in another way than the original manner (e.g. cooking, canning, preserving) in order to make new products (e.g. cooking a dishes, making smoothies, juices, jams etc.) on site, within the store or at small retail shops.

Support employees

Unsold products (e.g. vegetables, fruit, bakery products, etc.) at the retail stores could be offered to employees to eat in place and/or to take home. In that way costs of the food waste management are avoided.

Donate food for animal feed

Food that is no longer available for sale can be used as animal feed. This practical use of food leftovers is widespread in the retail sector. It could be a win-win situation for both participants, if regulations are observed – the animal organisations get safe food, the retailers send their food for further treatment and avoid the unknown acceptor.

Selective collection

The aim of all actors of the retail sector is avoiding the disposal of food waste. The waste directive supports this aim and therefore the retailers are motivated (e.g. the fee of the disposal which is rising year by year). Well separated food waste (not mixed with packaging waste such as plastics, wood) is required to start from the store itself in order to have a well-established selective collection system. In this purpose, it is really important that shop workers don't discard food waste into the communal waste bin but separate waste in the stores itself. It is necessary to implement daily measuring of the different waste fractions and update the database regularly about the amounts and type of food waste. Recording the outputs (animal farm, biogas facility, compost, landfill or any other) for these amounts and types of food waste should also be put down.

Waste utilization

Although they are found at the bottom of the Food Recovery Hierarchy developed by the Environmental Protection Agency, recycling solutions offer the greatest potential on national level for the reduction of food waste. At the food waste status, the retailers can give their waste for waste utilization (e.g. unsold bread can be transferred to the distillery, unsold fruits and vegetables are used for production of biogas). The amount of this waste can rise with better waste collection system. The most common waste utilization options are:

- **Anaerobic digestion**
- **Composting**

WHAT CAN I DO TO USE FOOD SOMEONE ELSE CAN'T USE ANY MORE?

Be open to products that are imperfect

Loosen up the aesthetic criteria for wonky fruits or too small products. The products with small misshape or size/colour varieties can be classified as grade II and can be marketed at discounted price, resulting

in less wasted food at the product stage and awareness raising among consumers that the imperfect products also are good for consumption (e.g. put two salads in a bag instead of 1, if the salad is too small).

- Create a separate brand for wonky ugly fruits and vegetables.
- Immediate sale (as promotional products) of the „fault“ products can be done.
- Accept fruits and vegetables with broken packaging if it is possible.

Help suppliers in special situations

Cooperation with other food product factories, restaurants, canteens, etc. could decrease food waste in case of overproduction, in case of production for another retail partner who cancelled the deal, etc. Innovative marketing strategies e.g. “we help our suppliers” could be started, special offers could be done or the already existing retail system could be used.

Since retailers work together with producers, the cooperation is durable if both sides are good; therefore, regular awareness campaigns among suppliers and retailers are necessary.

COMBINE THE SOLUTIONS

The main aim is to market more products with less loss. In favour of reducing food waste and costs, all of the actors need to find the best solution; therefore, almost all of the actors are interconnected (Chyba: zdroj odkazu nenalezen). The preferred option is the food surplus saving from the food waste stage and using it in the best possible way.



Figure 6: Food product/food surplus utilisation via actors of the food supply chain from the retail point of view

LINKS & REFERENCES

#REDUCEFOODWASTE - TOOL

Use the Reducefoodwaste-Tool to find out what is going on to reduce food waste along the food supply chain in your area! This tool will introduce you to a lot of important stakeholders in Europe and besides that you can find tips and tricks to prevent food waste.

<https://tool.reducefoodwaste.eu/>

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Regulation (EC) No 183/2005

Commission Regulation (EC) No 669/2009

Directive (EC) 98/2008 REFOWA

IMPROVE YOUR DAILY BUSINESS AND #REDUCEFOODWASTE

FOR
RETAIL

REASONS

WHY FOOD IS WASTED FROM RETAIL SECTOR INSTEAD OF BEING SOLD



HIGH QUALITY CRITERIA PASSED ON TO SUPPLIERS



MARKETING REASONS AS PRODUCTS HAVE TO BE AVAILABLE



PROBLEMS WITHIN LOGISTICS, COOLING CHAIN AND STORAGE



REJECTION DUE TO BAD PACKAGING,
IMPROPER LABELLING, PRODUCT LINE CHANGE



INEFFICIENT INVENTORY MANAGEMENT SYSTEM



LACK OF AWARENESS OF THE SUSTAINABLE USE OF UNSOLD FOOD/ DONATIONS

FOOD SUPPLY CHAIN



SOLUTIONS

#2
Retail



HOW TO REDUCE FOOD WASTE IN RETAIL

TRANSPORTATION - Choose the best possibilities of routing and donation

DO A GOOD PLANNING

UPGRADE THE IT SYSTEM AND KEEP TRACK ON THE EXPIRATION DATES

MEASURE IT! - Enhance demand forecasting

REDUCE HANDLING OF GOODS

SET UP AN ONLINE SUPERMARKET to reduce handling of goods

COLD CHAIN MANAGEMENT - Organize and optimize storing perishable products

FURTHER PROCESSING OF FRUITS AND VEGETABLES AT THE POS
(e.g. fruit salad, sliced vegetables)

APPLY THE "FIRST IN-FIRST OUT PRINCIPLE" (FIFO)

DO SPECIAL OFFERS FOR PRODUCTS NEAR THE BEST BEFORE DATE

EDUCATE YOUR EMPLOYEES AND YOUR CONSUMERS

HOW TO REDUCE FOOD WASTE IN COOPERATION WITH OTHER SECTORS

DONATE FOOD
(e.g. to food banks)

COOPERATE WITH SMALL BUSINESSES IN ORDER TO MAKE NEW PRODUCTS
(e.g. cooking a dish/day, making smoothies, juices, jams, etc.)

SUPPORT EMPLOYEES
Offer unsold food to employees to eat in place and/or take it home

BENEFITS

SAVE MONEY!

CREATE REGIONAL VALUE!

INCREASE CONFIDENCE WITH SUPPLIERS!

RAISE AWARENESS AND EDUCATE EMPLOYEES AND CONSUMERS!

INSPIRE OTHERS - BECOME A ROLE MODEL!

CONTRIBUTE TO ENVIRONMENTAL AND CLIMATE PROTECTION!

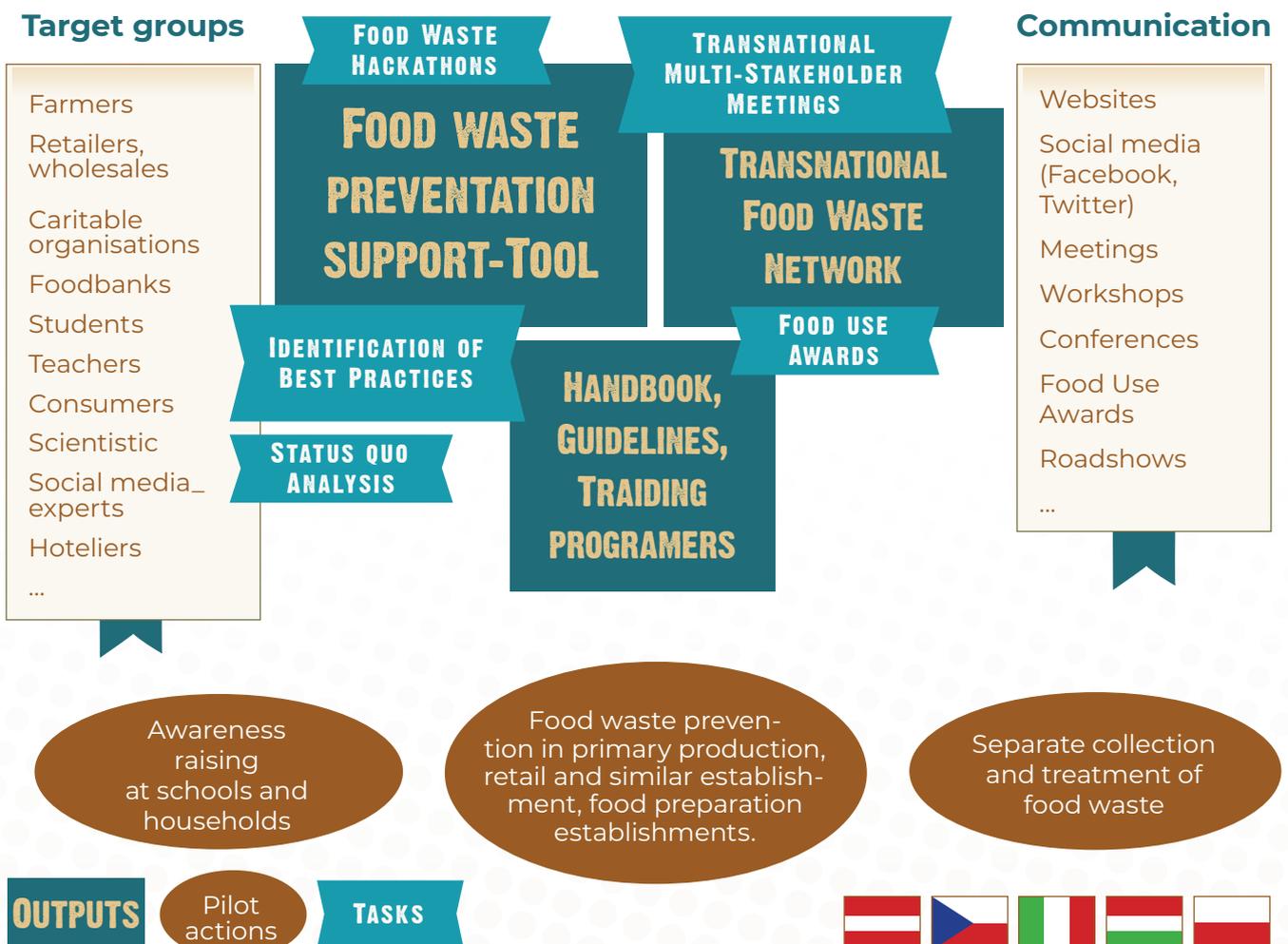
ABOUT STREFOWA

>>> reducefoodwaste.eu >>> www.interreg-central.eu/STREFOWA

Strefowa (Strategies to **Reduce** and **Manage Food Waste** in Central Europa) is a three-year project implemented in the Central Europe region funded by the Interreg CENTRAL EUROPE Programme that encourages cooperation shared challenges in central Europe. Therefore nine partners in five different Central Europe Countries (Austria, Hungary, Poland, Czech Republic, Italy) are working together. The aim is to reduce food waste or to treat it in a better, more useful way as well as to connect relevant actors in order to achieve a reduction of environmental impacts (e.g. GHG emissions) along the whole supply chain.

The most relevant outputs of this project are:

- Food waste prevention support – Tool** (<https://tool.reducefoodwaste.eu/#/>)
 Based on best practice examples and project outcomes, a tailor-made web based software tool provides specific information for different stakeholder groups to prevent and treat food waste.
- Implementation of Pilot and Demonstration Action**
 Food waste prevention measures as well as the feasibility of food waste separation and separate collection have been tested and evaluated within 16 pilot actions taking place in different partner countries. Newly acquired knowledge will now be accessible for others.
- Establishment of an appropriate Transnational Stakeholder Platform**
 Stakeholders that are willing to work together are identified and connected through a Transnational Stakeholder Platform.
- Best Practice Guidelines and Training Programmes**
 Guidelines and training programmes in regard to prevention, reduction and treatment of food waste have been developed and tested for relevant stakeholder groups along the food supply chain. They are based on current scientific findings and best practice examples.





<https://www.interreg-central.eu/STREFOWA>

