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Zero Waste HoReCa

CURRICULUM

FOOD WASTE MANAGEMENT

FOR TRAINING IN THE PROFESSIONS OF COOK AND WAITER

HORECA ZERO WASTE

ENHANCING THE ACCESS TO OERS AND GREENING THE CURRICULA

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Contents

1 Foodservice Waste

1.1 General framework

The framework for waste management is set out in several strategic documents.

- National Waste Management Plan (NWMP).

The conclusions of the analysis made in the latest version of the NWMP for 2021-2027 in relation to food waste management are in the direction of developing policy and strategy documents, introducing an ambitious legislative framework, ambitious management programmes, etc.

- In the next five years, the EC is expected to carry out further studies and possibly introduce new even more ambitious legislative requirements on food waste, textile waste, construction waste, etc.
- European strategic documents of recent years have changed the philosophy and approach to waste, and in particular propose a shift from environmentally sound waste management as a key factor for environmental protection and human health, to a policy of waste prevention and inclusion in the economic cycle based on a "circular economy". This approach aims to break the link between economic growth and the generation of waste that is harmful to the environment and poses a risk to human health.
- It is expected that in the next 5-10 years, on the basis of the strategic and policy documents adopted, the EC will continue to develop legislation in the waste management sector which will further introduce prevention requirements through new rules on eco-design and sustainability of products throughout their life cycle.
- The national programmes with EU funding for the period 2021-2027 should carry out the programming process taking into account the European policy and strategy documents of recent years, in particular on the circular economy, as well as the national strategic documents defining Bulgaria's development vision, including the NBSAP for the period 2021-2028 and the Strategy and Action Plan for the Transition to a Circular Economy of the Republic of Bulgaria for the period 2021-2027.
- The competent national institutions in Bulgaria have taken actions and developed national waste management programme documents, which in terms of content, scope and structure are in line with the European legislative and methodological guidelines (National Waste Management Plan 2014-2020, National Strategic Plan for the Phased Reduction of Biodegradable Waste Destined for Landfill 2010-2020, National Strategic Plan for Construction and Demolition Waste Management on the Territory of the Republic of Bulgaria).

- The National Reform Programme - Progress towards the UN Sustainable Development Goals (SDGs)

One of the UN Sustainable Development Goals (SDGs) is to end hunger and reduce food waste

- Operational Programme "Environment"

In order to promote resource efficiency and the circular economy through sustainable waste management, investments from the European Structural and Investment Funds under the Operational Programme "Environment" are mainly aimed at: design and construction of composting installations and installations for the pre-treatment of municipal waste, composting installations for separately collected green and/or biodegradable waste, anaerobic installations for separately collected biodegradable waste, design and construction of an installation for the treatment of biodegradable waste. Waste

- National Food Loss Prevention and Reduction Programme (2021-2026)

The National Food Loss Prevention and Reduction Programme sets the framework for joint action to reduce food loss and waste and for society to rethink attitudes to food consumption and food value. It has been developed to reduce food loss and waste in line with UN Goal 12.3, and in implementation of the Waste Framework Directive 2008/98/EC of the European Parliament and of the Council, as amended by Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018, which requires each Member State to develop and adopt a food waste prevention programme.

The National Programme for Food Loss Prevention and Reduction includes the following areas of action:

-prevention (prevention) of food losses (unrealised surplus);

-redistribution of unsold edible food to people in need;

-awareness and information of the public about the problem of food loss and waste.

To implement the National Programme, an Action Plan has been prepared containing specific measures to reduce food loss and waste, deadlines for implementation and responsible institutions.

1.2 Types

1.2.1 Bio-waste and food waste

The 2008 Waste Framework Directive defines bio-waste as "biodegradable" waste from gardens and parks, food and kitchen waste from households, restaurants, catering and commercial establishments, and similar waste from food processing plants. It does not include residues from forestry or agricultural activities, natural fertilisers, sewage sludge or other biodegradable waste such as natural textiles, paper or treated wood. Also not included are those by-products of food production which never become waste.

Food waste can be raw or cooked food and can include food materials such as old bread or potato peelings as well as non-food materials such as banana peelings or egg shells. Loss of food

materials can occur before, during or after food preparation in the household, as well as in the case of food discarded during manufacturing, retail and food service activities.

In the case of loss of food materials, a distinction can be made between preventable and non-preventable waste. The WRAP report[1] on household food and drink waste in the UK defines preventable food waste as discarded edible food and drink, such as milk, lettuce, fruit juice, meat (including bones, skin etc.) Food and drink that some people eat and others do not (e.g. bread crusts) or that can only be eaten when the food has been prepared in a certain way (potato peels) are not considered preventable. Non-avoidable waste is waste that is not edible under normal circumstances (such as meat bones or egg shells).

Green waste includes garden and park waste such as grass clippings, hedge trimmings and other plant cuttings. Paper waste is excluded in accordance with the definition in the Waste Framework Directive. 'Smart gardening' consists of techniques to reduce the amount of grass, leaves and twigs generated by a park or garden, e.g. selection from slow-growing plants or reduced use of fertilisers. A positive example is VLACO's 'Cycle Gardening' initiative in Flanders.

When green waste is incinerated or composted, the environmental benefits of incineration or composting may outweigh the environmental impacts of green waste production. Therefore, the prevention of green waste or 'smart gardening' are not considered priority areas for action by Member States. In any case, the positive environmental impacts of smart gardening are too small compared to the positive impacts of food waste prevention, and smart gardening is therefore no longer considered in these guidelines.

Definition of food waste and its importance for the HORECA sector

Food waste is defined as any type of food or food scraps that are thrown away or discarded within the HORECA sector. These include unusable or unsaleable products, leftovers from food preparation, underused ingredients, oversized portions, expired products, etc. Food waste can originate from restaurants, hotels, cafes, bars, catering services and other establishments in the HORECA sector.

Food waste can be classified into several main categories depending on its origin and properties:

-Residues from meals: these are leftovers from prepared and served food that have not been eaten, such as leftover dishes, bread, fruit and vegetables.

-Unusable food parts: this includes parts of food that are not normally eaten, such as peels, stems, seeds and bones.

-Expired food and products: these are food and products that have expired or exceeded their expiry date and cannot be sold or consumed.

[1] [WRAP - a company set up by the UK government to promote sustainable waste management.]

-Failed products and products of insufficient quality: this includes foods and products that do not meet quality standards, are damaged, deformed or do not meet the sales criteria, but are still safe to eat.

-Unused ingredients and raw materials: these are ingredients and raw materials that are not used during the food preparation process and remain unused.

-Unsold food from restaurants and shops: this includes food that has not been sold in restaurants, cafes, shops or supermarkets and is to be thrown away.

Food waste is particularly significant because of its potential to reduce food waste and improve resource use efficiency. Recycling food waste can include donating uneaten food to charities, using it to produce biogas or composting it to produce fertile soil.

The importance of food waste management in the HORECA sector is multifaceted:

Economic significance: Food waste represents a loss of resources and money for businesses in the HORECA sector. Excess portions, unsaleable products and food waste reduce profits and lead to excess costs for waste collection and disposal. Reducing food waste can improve the financial sustainability of enterprises and increase their income.

Environmental significance: Food waste is associated with significant environmental problems. When they are dumped or burned, they cause soil, water and air pollution. When they decompose, they release methane, a potent greenhouse gas. Also, the resources lost in the process of food production and delivery create a strain on the environment. Food waste management is an important aspect of a sustainable policy to protect the environment and reduce the environmental impacts of the HORECA sector.

Social relevance: food waste can be used to reduce food insecurity and fight hunger. By donating and distributing unwanted but still edible food, businesses in the HORECA sector can help those in need and contribute to the public good. This also has a positive social effect and improves the image of the enterprise.

All these factors make food waste management essential for businesses in the HORECA sector. They should be encouraged to implement loss prevention practices, separate waste collection and processing, food donation and the use of technological solutions that reduce the burden on the environment and contribute to sustainable development.

1.2.2 Environmental and social impacts of food waste

Food waste has serious impacts on both the environment and society. Some of these impacts include:

1. Environmental pollution. When food waste decomposes, it releases methane, a potent greenhouse gas with a potential 32 times that of CO2, which contributes to the greenhouse effect.

2. Loss of natural resources. When food waste is disposed of, these resources are wasted, resulting in the loss of valuable materials and energy.

3. Energy consumption and emissions. In order to meet the needs of the world's growing population, food production needs to increase, resulting in greater use of energy and natural resources.

4. Economic losses: Food waste represents a significant economic loss for enterprises in the HORECA sector. When food is thrown away, so are the investments made in it, such as raw materials, labour and energy. This can have a negative impact on the financial sustainability and profitability of enterprises.

5. Social impacts. Globally, millions of people suffer from hunger and malnutrition, while at the same time large quantities of food are thrown away as waste. Overcoming hunger and inequalities in access to food is one of the major challenges facing society.

Food waste management is essential to reduce these negative impacts. HORECA businesses play an important role in this regard by implementing food waste reduction measures, separating and processing waste, and promoting food donation and reuse practices. These actions help protect the environment and contribute to a more sustainable use of resources and a reduction in social insecurity.

1.2.3 Packaging and packaging waste

Catering establishments offer a variety of packaged food and, according to the Waste Management Act, they must have a contract with a recovery organisation and hand over the separately collected packaging.

1.2.4 Other hazardous and non-hazardous waste

For other (non-packaging) waste, the requirements for separate collection of plastics, paper and metals apply. There is also an obligation to place battery bins on site and to hand them over to persons with the appropriate permits. Hazardous waste should be collected separately and municipal initiatives to collect chemicals, medicines, etc. should be used.

In the texts below the requirements for the different types of waste are presented.

1.2.5 Classification

In 2018, the MoEW issued a Waste Classification Guide . The guidance has been approved by the Minister of Environment and Water in consultation with the Minister of Health and the Executive Director of the Executive Environment Agency (EEA).

The guide is intended to assist interested parties - waste generators, waste holders and competent environmental authorities in the practical application of the requirements of the Waste Classification Ordinance No. 2 related to waste classification and reclassification procedures.

The guide should be used if you generate, manage waste, or are a regulatory authority. The guide explains how to assess whether waste exhibits hazardous properties and how to classify it. For most wastes, you will need to indicate whether the waste has hazardous properties before you can classify or describe it. The information provided in the guide is appropriate for most wastes. The guide provides a Waste Classification Procedure as well as Steps for classifying and assessing waste.

1.3 Waste management legislation requirements

Directive 2008/98/EC - the Waste Framework Directive (WFD) defines what constitutes 'waste' and how it should be managed.

The WFD is the main waste regulatory document at EU level. As a Directive, the WFD has been transposed into Member States' national laws by separate regulations. The main national waste management regulations are:

BULGARIA	**Waste Management Act and Regulation No. 2 on Waste Classification.**
GREECE	**Law 4042/2012** on waste management.
CROATIA	**Waste Management Act** adopted by the Croatian Parliament on 15 July 2021.
SPAIN	**Law 22/2011 of 28 July** on waste and contaminated land
MALTA	**Environmental Protection Act** and supplementary legislation 549.43 on waste management (packaging and packaging waste).

Table 1

The scope of the Directive is established by the definition of "waste" in Article 3(1) of the WFD: "any substance or object from which the holder disposes or intends to dispose or is obliged to dispose."

Waste management is a modern concept of resource efficiency aimed at preventing the generation of waste, promoting reuse and recovery through recycling, reclamation or other processes of extraction of secondary raw materials, disposal and safe storage of waste, increasing producer responsibility, stimulating investment. Waste management shall aim to prevent or reduce harmful impacts on human health and the environment and shall be carried out in accordance with the requirements of legislation on the protection of water, air, soil, plants and animals noise and odours, and the protection of the natural environment.

Fig.1 - Waste hierarchy

In the context of the European Commission's waste policy and the development of a circular economy, the linear economic model of "take, make and dispose" is no longer relevant to the needs of modern society and the limited nature of natural resources. According to the waste hierarchy adopted (Fig. 1), priority is given to waste prevention, followed by preparation for reuse, recycling, recovery and finally disposal as the least desirable option.

In this sense, public policy on waste management focuses on integrating new, environmentally and economically sustainable models, where everything that can be recovered and recycled is separated from municipal waste to turn it into energy, raw material for industry, fertilizer for plants, and minimal amounts of waste are disposed of in newly built regional landfills.

1.3.1 Waste Management Act and its regulations and obligations of establishments

Waste Management Act (WMA) (*In force since 13.07.2012, Official Gazette of the Republic of Lithuania, No. SG No. 53 of 13 July 2012, and last amended by art. No. 19 of 5 March 2021*) is the legal act which regulates the measures and controls to protect the environment and human health by preventing or reducing the generation of waste, as well as the harmful effects of waste generation and management, and by reducing the overall impact of resource use and by increasing the efficiency of such use, which will contribute to the transition to a circular economy and to ensuring long-term competitiveness.

It lays down requirements for products that generate hazardous and/or widespread waste in the course of their manufacture or after their final use, as well as requirements for extended responsibility of the producers of these products in order to promote the re-use, prevention, recycling and other recovery of the waste generated.

Definitions under the MSW Act:

"Bio-waste" is biodegradable waste from parks and gardens, *food and kitchen waste* from households, offices, *restaurants*, wholesale, *canteens, catering* and retail outlets, and similar waste from food processing businesses.

"Biodegradable waste" means all waste that has the capacity to degrade anaerobically or aerobically, such as *food* and vegetable waste, paper, cardboard, etc.

"Municipal waste" means:

(a) mixed waste or separately collected household waste, including paper and cardboard, glass, metals, plastics, *bio-waste*, wood, textiles, packaging, waste electrical and electronic equipment, waste batteries and accumulators, and bulky waste, including mattresses and furniture;

(b) mixed waste or separately collected waste from other sources where such waste is similar in nature and composition to household waste;

Municipal waste does not include waste from manufacturing, agriculture, forestry, fisheries, septic tanks and sewage treatment, including sludge from sewage treatment, end-of-life motor vehicles or waste from construction and demolition.

This definition does not affect the allocation of waste management responsibilities between public and private entities.

'Wastes of mass distribution' are wastes which are generated after the use of products from numerous sources throughout the country and, because of their characteristics, require special management.

"Recovery organisation" means a legal entity registered under the Commercial Law or under its national legislation, which does not distribute profit and which manages and/or independently carries out the *separate collection*, recycling and recovery activities of mass produced waste.

"Waste" means any substance or article which the holder is disposing of or intends or is obliged to dispose of.

"Prevention" means the measures taken before the substance, material or product becomes waste, thereby reducing:

(a) the amount of waste, including through product reuse or life cycle extension;

(b) the harmful effects of the waste generated on the environment and human health, or

(c) the content of hazardous substances in materials and products.

'Re-use' means any activity by which products or components which are not waste are re-used for the purpose for which they were intended.

'Preparation for re-use' means recovery activities consisting of inspection, cleaning or repair by which products or components of products which have become waste are prepared so that they can be re-used without any other pre-treatment.

'Similar waste' is waste that is *comparable* in nature and composition to household waste, with the exception of production waste and waste from agriculture and forestry.

'Pre-storage' means the activity of storing waste *at the point of generation* until collection at facilities where it is unloaded in preparation for subsequent transport to another site for recovery or disposal.

"Waste holder" means the waste producer or the natural or legal person in whose possession the waste is located.

"Waste producer" means a natural or legal person whose activities generate waste (primary producer) or anyone who carries out pre-processing, mixing or other activities that result in a change in the properties or composition of the waste.

'Segregated collection' means collection where a waste stream is separated by type and nature of waste to facilitate specific treatment.

'Recycling' means any recovery activity by which waste materials are transformed into products, materials or substances for their original purpose or for other purposes. It includes the processing of organic materials, but does not include recovery for energy production and processing into materials to be used as fuels or for bulk activities.

'Recovery' means any activity which has as its principal result the use of waste for a useful purpose by substituting other materials which would otherwise be used to perform a particular function, or the preparation of waste to perform that function in a production facility or in the economy as a whole. Annex 2 to the WEEE contains a non-exhaustive list of recovery activities.

"Disposal" means any activity that is not recovery, even where the activity has as a secondary consequence the recovery of substances or energy. Annex 1 to the WEEE contains a non-exhaustive list of disposal activities.

'Waste management' means the collection, transport, disposal and recovery (including sorting) of waste, including the control of these activities, the after-care of landfills, and actions taken in the capacity of a trader or broker.

"Food waste" means any food as defined in Article 2 of **Regulation (EC) No 178/2002** of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety which has become waste.

1.3.2 DIRECTIVE (EU) 2018/851 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 30 May 2018 on waste.

Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 on waste, known as the "Waste Directive", is a piece of European Union legislation that aims to promote sustainable waste management in the European Union. This Directive is important for the effective management of waste and the reduction of its impact on the environment and human health.

Key aspects of Directive (EU) 2018/851:

1. Waste Hierarchy: The Directive introduces a waste hierarchy that defines the preferred order of action for waste management. It promotes waste prevention, supports recycling and recovery of materials and energy from waste, and only as a last resort, if other options are not possible, promotes the removal of waste through its harmless, or safe, treatment.

2. Recycling targets. These targets are to be achieved by EU Member States as an overall percentage of these types of waste generated in their territory.

3. Prevention of food waste: the Directive places special emphasis on the prevention of food waste. It encourages Member States to take measures to reduce food waste at production, distribution, catering and household level.

4. Separate collection of waste: the Directive emphasises the need for separate collection of waste, including targeted separate collection of certain types of waste where this is technically, economically and environmentally feasible. This includes separate collection of plastics, glass, paper, metals and biodegradable waste.

5. Reporting and monitoring.

6. Cooperation and coordination: the Directive promotes cooperation and coordination between EU Member States to achieve effective waste management, including cooperation on the development of waste treatment and recycling infrastructure.

The aim of Directive (EU) 2018/851 is to encourage EU Member States to adopt measures to reduce waste, increase recycling and move towards more sustainable waste management models. This is in line with the European Union's drive to achieve the objectives of the 'circular economy' and create a more sustainable and resource-efficient Europe.

The EU and EU countries are committed to meeting target 12.3 of the UN Sustainable Development Goals, namely: halving global food waste and per capita food waste in retail and consumption by 2030, reducing food losses along production and supply chains, including post-harvest losses.

The European Union (EU) has implemented various measures to promote waste reduction in the HORECA sector. Some key ways in which the EU is promoting waste reduction in this sector are:

Circular Economy Action Plan: the EU Circular Economy Action Plan aims to move towards a circular economy where resources are used more efficiently and waste is minimised. It sets out

concrete measures to tackle food waste, including support for the implementation of EU food donation guidelines and promoting the use of date stamping to prevent unnecessary food waste.

EU Platform on Food Loss and Food Waste: the EU established the Platform on Food Loss and Food Waste, bringing together stakeholders from different sectors, including HORECA, to share best practices, exchange information and develop initiatives to reduce food waste. The platform facilitates collaboration and knowledge sharing among stakeholders to promote waste reduction strategies.

EU guidelines on food donation: the EU has developed guidelines on voluntary food donation which provide practical recommendations for businesses, including those in the HORECA sector, on how to safely and effectively donate surplus food. The guidelines help address legal and food safety issues by making it easier for HORECA establishments to donate surplus food to those in need.

Funding and support: the EU provides funding and support for waste reduction projects and initiatives, including those focused on the HORECA sector. Funding programmes such as Horizon 2020 and LIFE provide financial support to organisations and businesses working on innovative waste reduction solutions and circular economy initiatives.

Research and data collection: the EU is investing in research and data collection to better understand the causes and impacts of food waste in the HORECA sector. This information helps policy makers and stakeholders develop effective strategies and measure progress in waste reduction efforts.

Awareness and education: the EU promotes awareness and education campaigns to inform businesses and consumers about the impact of food waste and the importance of reducing waste. These initiatives aim to change behaviour and encourage a more sustainable approach to food consumption and waste management.

Through these measures, the European Union aims to boost waste reduction efforts in the HORECA sector by encouraging businesses to adopt sustainable practices, minimise food waste and contribute to the transition towards a more circular economy.

Regulation (EC) No 178/2002

Definitions

***'food'** (or **'food product'**) means any substance or product, whether processed or unprocessed, partially processed or unprocessed, which is intended for or reasonably expected to be ingested by humans.*

*The term **'food'** includes beverages, chewing gum and any substance, including water, which is intentionally incorporated into food during its manufacture, preparation or processing. It includes water after the point of compliance as defined in Article 6 of Directive 98/83/EC and without prejudice to the requirements of Directives 80/778/EEC and 98/83/EC.*

'food business operator' *means any establishment, whether for profit or not, public or private, which carries out any of the activities associated with any stage of the production, processing and distribution of food;*

'retail' *means the processing and/or handling of food, its storage for sale or delivery to the final consumer, and includes distribution terminals, catering, canteens, restaurants and similar food services, shops, supermarket distribution centres and wholesale outlets*

'placing on the market' *means the possession of food or feed with a view to sale, including the offer for sale or any other form of transfer, whether free of charge or for consideration, the sale, distribution and other forms of transfer;*

'final consumer' *means the last consumer of a food product who will not use the food as part of an operation or activity of a food business.*

The classification of waste shall be carried out in accordance with the Waste Classification Regulation of 2014, Art. 1 of the MSW Act.

The Ordinance establishes the conditions and procedure for the classification of waste by **types** and **properties**. The purpose of the Ordinance is to classify waste ensuring its environmentally sound management in accordance with the Waste Management Act (WMA) and its implementing regulations.

According to the Ordinance, the waste producer is obliged to classify the waste generated as a result of its activities. The classification of the waste shall be carried out by selecting a six-digit code from the list of wastes (SO) in Annex 1 to the Ordinance, subject to the requirements set out therein. The CO is a catalogue of all waste divided into 20 chapters. The chapters must be used in the correct order of priority. The chapters contain the classification codes and a description of each code.

Ordinance on separate collection of bio-waste and treatment of biodegradable waste

The Ordinance sets out the requirements for separate collection of bio-waste, the bio-waste and other biodegradable waste suitable for recovery, and the requirements for separate collection of bio-waste.

The Ordinance shall apply to biodegradable waste and bio-waste originating from households and other sites covered by municipal separate collection systems and municipal mixed municipal waste collection systems.

As required by the ordinance, the site is required to provide space for the convenient placement of a dedicated bio-waste container.

1.3.3 Waste data

Data on waste, including biodegradable waste, is collected through the National Waste Information System (NWIS) at the Executive Environment Agency. It is part of the European Environment Agency and collects comparable waste data.

Fig. 2. Source: Eurostat

The data collection system for food and biodegradable waste is under construction, and no conclusions can be drawn about its dynamics and structure.

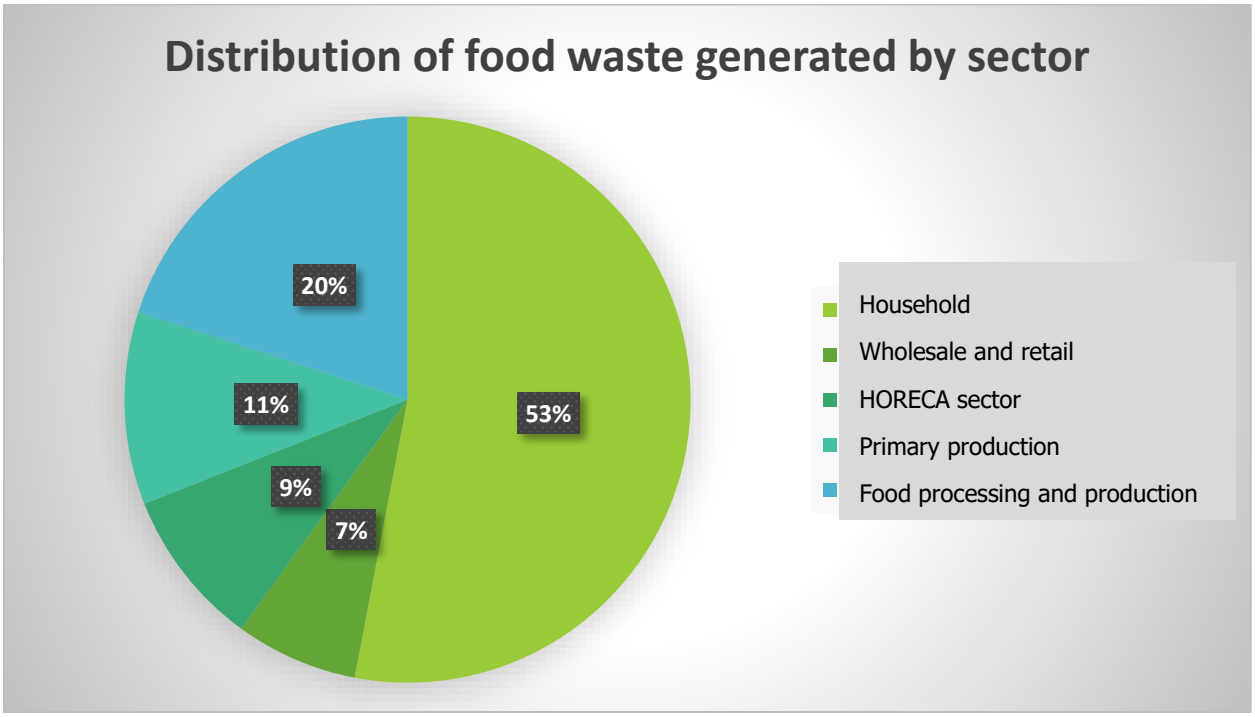

Fig. 3. Source: Eurostat

1.3.4 What is waste prevention[2]

The definition of waste prevention related to the development of National Waste Prevention Programmes is in line with the 2008 Waste Framework Directive.

'Prevention' means measures taken before a substance, material or product has become waste . Measures limit:

(a) The amount of waste, including by reusing products or extending the life cycle of products.

(b)The adverse environmental or human health impacts of the waste generated.

(c) The content of harmful substances in materials or products.

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

Benefits of waste reduction

- Prevents the disposal of food waste in landfills, which reduces greenhouse gas (methane) emissions

- Saves the energy, water, labour used to grow, produce, transport and prepare food

- Can be provided to groups of people who are malnourished or community members through redistribution of uneaten, usable food

- Saves costs from food waste management during menu planning and preparation

- Less transportation costs (less food waste = less food for landfills)

- Introduces zero waste practices to staff and community

1.4 Prevention of nutrient losses

1.4.1 Identify potential causes of food loss in the preparation and serving process

Potential causes of food loss in the preparation and serving process in the HORECA sector may include:

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2 https://www.moew.government.bg/static/media/ups/tiny/file/Waste/Biowaste/food_prevention_guideline_1.pdf

1. Incorrect menu planning. Lack of menu analysis and optimisation can lead to unnecessary food waste.

2. Too large portions. This results in leftover food being thrown away. Inadequate portion management can be the cause of significant food waste.

3. Improper food storage. Inadequate refrigeration, poor storage management or improper use of refrigerators and freezers can result in food loss.

4. Poor food preparation. Inadequate cooking knowledge and skills can lead to food wastage.

5. Lack of training and awareness. Insufficient training and lack of information can lead to improper food handling and disposal.

To reduce food losses in the preparation and serving process, enterprises in the HORECA sector need to pay attention to menu planning, portion management, proper storage and preparation of food, and staff training and awareness.

1.4.2 Strategies to prevent nutritional losses

The HORECA sector plays an important role in food production and consumption, but unfortunately also generates a significant amount of food waste. Food waste management in the HORECA sector is essential to minimize environmental impact, conserve resources and reduce costs. Here are some key points on food waste management in this sector:

Prevention: the first step in food waste management is to prevent waste from occurring in the first place. Restaurants in the sector can implement strategies such as accurate demand forecasting, inventory management and menu planning to minimise overproduction and excessive purchasing.

Training and Awareness: Proper training of staff members in food handling, storage and portion control can help reduce food waste. Raising awareness among staff about the importance of minimising waste can also help to promote a culture of waste prevention.

Food donation: businesses can consider donating excess edible food to food banks, shelters or local charities. Partnering with food recovery organizations can facilitate redistribution of excess food to those in need while minimizing waste.

Composting: Composting is an effective method for managing food waste that cannot be donated or consumed. HORECA businesses can set up composting systems, or partner with composting facilities, to ensure that food waste is diverted from landfills and turned into nutrient-rich compost.

Source separation and recycling: proper separation of food waste and recyclable materials such as packaging can allow for efficient recycling processes. Establishments in the sector should implement clear waste separation systems and work closely with waste management service providers to ensure that recycling is maximised.

Measurement and monitoring: regular measurement and monitoring of food waste is critical to identify patterns, areas of improvement and set targets for reduction. Implementing systems to track and analyze waste data can provide new patterns and guide decision-making on waste reduction strategies.

Technological solutions: the use of technology can help with food waste management. For example, digital inventory management systems, automated portion control tools and smart monitoring systems can help optimize food use and minimize waste.

Collaboration and Partnership: Engaging in collaboration and partnership with organizations focused on food waste reduction can provide HORECA facilities with valuable knowledge, resources and support. It allows sharing of best practices, access to educational materials and participation in various initiatives.

By implementing these strategies and adopting a holistic approach to food waste management, the HORECA sector can make a significant contribution to reducing food waste, minimising environmental impact and promoting sustainability in the food industry.

1.5 National management infrastructure

In accordance with the legislation adopted in the EU Member States, waste management is carried out at national, regional and local level.

BULGARIA

- MINISTRY OF ENVIRONMENT AND WATER

The control functions with regard to the activities in accordance with the permits issued to the MAs and to the persons individually fulfilling their obligations for the management of the MPAs are performed by the MoEW. The MoEW also carries out methodological and coordination functions with regard to the implementation of inspections by the RIEW, by developing guidelines and instructions and by carrying out periodic training of the RIEW on the implementation of inspections. The coordinating directorate in the MoEW is the Environmental Policies Directorate, which includes the RIEW Coordination Unit.

- REGIONAL ENVIRONMENTAL AND WATER INSPECTORATES

The regional units of the Ministry of Environmental Protection - the Regional Inspectorates for Environmental Protection - have the broadest control functions in terms of compliance with the requirements of the Environmental Management Act and its regulations. The Regional Inspectorates carry out inspections and controls on a wide range of regulatory requirements, including: air cleanliness, industrial emissions, wastewater, protected areas, as well as NATURA 2000 sites, etc.

The Regional Inspectorate for Environmental Protection shall control compliance with the requirements for waste treatment and the conditions of the waste permit and complex permit, respectively the registration document for:

-the activities related to the generation, collection, including the separation of waste, storage, transportation, treatment of waste on the territory of the respective Regional Inspectorate of Environmental Protection;

-facilities and installations for the storage and treatment of waste.

The Regional Inspectorates also monitor the reporting and provision of information under the MSW Act, as well as the implementation of the obligations of the mayors of municipalities related to waste management.

The Regional Inspectorate for Environmental Protection also monitors the correct charging and timely payment of the product fee for MSW, as well as the fulfilment of landfill owners' obligations regarding waste disposal through landfilling.

- MAYORS OF MUNICIPALITIES

Mayors of municipalities also have significant powers in the area of inspections, with the MSW Act granting them powers to control:

1. the activities related to the generation, collection, including the separation, storage, transportation, treatment of municipal and construction waste

2. the activities of disposal of industrial and hazardous waste at municipal and/or regional landfills

3. the sites for MSW activities

4. compliance with other requirements set out in the municipal waste management ordinance

5. the abandonment of household waste and its unregulated disposal (from 2022).

The mayor of the municipality shall also supervise the closure, land reclamation and subsequent monitoring of municipal and construction waste landfills on the territory of the respective municipality.

GREECE

- MINISTRY OF ENVIRONMENT AND ENERGY

It takes care of the development and implementation of policies and programmes related to the environment, including waste management and the protection of the country's natural resources. Their functions include the control and regulation of waste materials, recycling and other environmental and energy aspects.

- WASTE MANAGEMENT ORGANISATION

Responsible for the coordination and management of waste collection and treatment systems, including bio-waste.

CROATIA

- MINISTRY OF ENVIRONMENTAL PROTECTION AND ENERGY

Responsible for developing waste management strategies and legislation, including food waste.

- COUNTIES AND MUNICIPALITIES

Responsible for organising and implementing local waste collection and treatment systems, including food waste.

SPAIN

- MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO (MINISTRY FOR ECOLOGICAL TRANSITION AND DEMOGRAPHIC CHALLENGE)

Responsible for developing policies and legislation on waste management, including food waste.

- AUTONOMOUS COMMUNITIES

Responsible for the implementation and management of waste collection and treatment systems at regional level.

MALTA

- MINISTRY FOR THE ENVIRONMENT, CLIMATE CHANGE AND PLANNING

Responsible for developing waste management policies and strategies, including food waste.

- WASTESERV MALTA LTD

A public undertaking responsible for the operational management of waste collection and treatment systems, including bio-waste.

These institutions work together to establish and implement national and regional strategies for food waste management and provide relevant regulations and guidance.

The EU and its Member States have different approaches to waste treatment, including food waste.

Various waste management measures and programmes are in place in Bulgaria. Food waste is regulated through the Waste Act and related regulations. In some large cities, separate collection and treatment systems are used for bio-waste, which is used to produce compost or biogas. Also, donating uneaten food to charities is a practice that is developing in the country.

Greece also has legislation regulating waste management. The treatment of bio-waste in the country is carried out through composting systems, with the compost produced being used for agricultural and garden purposes. In some areas, separate collection and treatment systems are also in place for anaerobic digestion of biowaste to produce biogas.

In Croatia, waste management, including food waste, is regulated by various pieces of legislation and strategies. Food waste is collected separately and used for biological treatment, composting or biogas production. Some cities have anaerobic digestion plants that process bio-waste and generate biogas for energy purposes.

Spain has a well-developed waste management and bio-waste treatment infrastructure. Separate collection systems for bio-waste and its subsequent composting or anaerobic digestion processes are used in different regions. The processed material is used to produce compost or biogas.

Malta has taken steps to improve waste management, including food waste. It has systems in place for separate collection and treatment of bio-waste, which is used to produce compost. In 2023, Malta plans to introduce binding recycling targets, which will contribute to more efficient management of food waste.

Although there are different approaches and tools in different countries, the aim of all these strategies is to reduce the amount of food waste that is thrown away and to promote sustainable resource management.

2 Catering waste management system

2.1 Specific terms

Environment

Environmental aspect

Impact on the environment

Environmental target

Prevention of contamination

Risk

Interested party

Life cycle

Process

Audit

Compliance with a requirement

Score

Measurement

2.2 Context

The site's waste management system provides a framework for reducing waste and the impact it has on the environment. The systematic approach enables a response to changing external environmental conditions in balance with the internal needs of the site. This sets a framework for achieving the expected results and improving the management of material and financial resources as well as human capital.

The context is all the external and internal issues that relate to the objective (good waste management) and that affect its ability to achieve the expected outcomes of its waste management system. Such issues should include environmental conditions that are or may be affected by the organisation.

Understanding stakeholder needs and expectations

Good waste management involves understanding the expectations of stakeholders, including customers, workers, neighbours, local communities, control authorities. Some of the expectations are binding on the site - e.g. on control authorities and municipal authorities. Others may become mandatory - e.g. to customers, local communities, etc.

Definition of the scope of management

The scope also includes the physical boundaries for one or more sites, as well as organisational control and influence, taking into account the entire life cycle. The scope should clarify the physical, functional and organisational boundaries to which management applies. In this sense, the control of externally provided services (on-site behaviour, products and processes used, etc.) must also be defined.

The site must define the boundaries within which the requirements apply and take into account:

a) Foreign and domestic affairs;

(b) compliance obligations;

c)the work organisation, processes and physical boundaries;

d) activities, products and services;

e) the power and ability to control and influence.

After scoping, all activities, products and services within that scope must be included in the system.

The scope should be documented and accessible to stakeholders.

2.3 Lead role

- Leadership and engagement

Site management should demonstrate its leadership and commitment to waste management by:

a) take responsibility for the effectiveness of the waste management system;

c) ensure that waste management requirements are incorporated into business processes;

(d) provide the resources necessary for waste management;

(f) ensure that the expected waste management outcomes are achieved;

(g) guide and assist people to contribute to the effectiveness of waste management;

h) promote lasting improvement;

(i) Assist relevant individuals in other leadership positions to demonstrate their leadership when applied to their areas of responsibility.

- Organisational roles, responsibilities and authorities

The site manager should ensure that information is assigned and disseminated throughout the site on the responsibilities and authorities for the relevant persons.

The manager should assign responsibilities and authority for reporting waste management results.

2.4 Aspects and impacts

- What is it

Within the defined scope, the site must identify the aspects - the elements of the activities that can be controlled and influenced and the associated quantities of waste generated.

In determining the aspects to consider:

(a) changes, including planned or new circumstances and new or changed activities, products and services;

b) emergency conditions and reasonably foreseeable emergency situations.

The site should identify the aspect (type of waste) that is most important (significant) - e.g. food waste (unrecycled), vegetable waste, etc. using importance criteria. The criteria are usually for severity of impact and how often the aspect occurs.

Everyone in the facility should be informed about the most important aspects and especially those where they are manifested.

Significant aspects of the environment may result in risks and opportunities associated with adverse environmental impacts (threats) or beneficial environmental impacts (opportunities).

- Obligations to comply

Responsible persons should identify and have access to compliance obligations related to waste management;

(b) determine how those compliance obligations apply to the organisation.

(c) take into account these obligations to comply in establishing, implementing, maintaining and permanently improving its environmental management system.

The organization must maintain documented information about its compliance obligations.

NOTECompliance obligations can lead to risk and opportunities for the organization.

Action planning

The organization must plan:

a) take action to:

1) significant environmental aspects;

2) compliance obligations

3) risk and opportunities as defined in 6.1.1

(b) how yes:

1) integrate and implement activities into its environmental management system processes (see 6.2, point 7, point 8 and point 9.1) or other business processes;

2) evaluate the effectiveness of these activities (see 9.1).

2.5 Objectives and their achievement

The organization establishes goals to fulfill the commitments included in its policies and to achieve other organizational goals. The process of establishing and reviewing overall objectives and the processes for achieving them provides the organisation with a systematic basis for improving environmental performance in some areas while maintaining the level of environmental performance in others.

Food waste targets

Planning actions related to food waste that will lead to meeting the targets

An objective may be expressed as a specific level of performance or may be expressed in general terms and further defined by one or more targets, i.e. a more detailed performance requirement. The defined objectives must be **measurable**. A **timeframe** may need to be set for the objectives.

The adopted waste targets should be considered as part of the overall management targets. Such integration can increase the value not only of the management system but also of the business processes to which the integration applies.

Objectives may be applicable within the organization, or more narrowly to site-specific activities. For example, a facility may have an overall goal of reducing energy used that can be achieved through activities in a single unit. In other situations, however, all parts of the organization should contribute in some way to the overall goal. It is also possible that different parts of the organisation that have the same overall objective may need to implement different actions to achieve their objectives.

When an organisation plans actions to achieve its waste targets, it must answer the following questions:

what will be done;

what resources will be needed;

who will be responsible for implementing the specific action;

when it will be implemented;

how results will be assessed, including monitoring indicators;

how the actions will be integrated into the organisation's business processes.

Example of a food waste related target:

Reduction of food waste by ...% in the first year of system implementation at the site. Up to ... (number of) meals, ... tonnes of food and ..... tonnes of carbon dioxide emissions will be saved.

Examples of performance indicators

Progress against an environmental objective can generally be measured using performance indicators such as:

- Quantity of raw materials or energy used;

- Waste generated per quantity of finished product;

- Efficiency of materials and energy used;

- Number of incidents (e.g. unplanned emissions);

- percentage of waste recycled;

- Percentage of recycled materials used in packaging;

- Waste management investments;

- Number of persons trained to identify an aspect of the environment;

- Percentage of budget spent on low-emission technologies.

2.6 Support

Resources

Example - human, physical and financial resources
The resource base and organisational structure of small enterprises can be constraints to the introduction of waste management. To overcome these, joint strategies can be developed with:
- Larger customer and supplier to share technology and knowledge;
- Other organisations in the supply chain or on a local basis to solve problems, share experiences, share facilities and engage external resources;
- Associations or chambers of commerce for training and awareness programs;
- Universities and other research centres for productivity improvements.

Competencies

Example - Examples of competence needs			
Potential areas of competence	**Typical organizational roles**	**Examples of competences/abilities required**	**Examples of ways of proving**
Environmental technologies	environmental technicians -	Environmental Sampling Professionals -Ability to operate monitoring equipment	-Teaching and assessing a range of requirements and practices - Certification or licensing for the use of equipment
	Heads of environmental programmes	- professionals in applicable legal requirements	Degree in Environmental Education Training on applicable legal and requirements
Environmental operations	Persons whose work involves significant aspects of the environment	Awareness of how their work impacts environmental performance Knowledge of the operational criteria to be achieved to minimise adverse environmental impact	Training on the environmental impacts associated with their work Training on operational criteria to ensure that processes are controlled
Environmental Management System	Environmental Managers	- Ability to establish, implement and improve an environmental management system - Ability to identify risk and opportunities that need to be addressed to ensure that the system can achieve the intended outcomes and plan appropriate actions - Ability to analyze a regulatory document regarding environmental performance outcomes and compliance obligations	- Experience in implementing an environmental management system - Training on environmental management system requirements
	Audit programme managers	Ability to develop and manage an audit program to determine the effectiveness of the organization's management system	- Programme management training - Experience in programme implementation
	Senior Management	- knowledge and understanding of the implications of environmental policy making and implementation - Knowledge and understanding of the availability of resources and their application to the environmental management system, including the assignment of responsibilities and authorities	- Environmental management system training and environmental policy making - Experience in running a business

Awareness

Management has a key responsibility for communicating waste management and performance across the enterprise to increase knowledge and encourage behaviors that support waste reduction commitments. This includes employees and others working under the control of the organisation being aware of the organisation's values, and how these values can contribute to the business strategy.

Management should ensure that employees are encouraged to:

- improving results;

- contribution to the achievement of the planned results;

Dissemination of information

In determining how to communicate, different methods should be considered that can promote understanding and acceptance of waste management efforts and support dialogue with stakeholders. Methods of communication include, for example, informal discussions, open houses, focus groups, community dialogue, participation in public events, websites and e-mail, press releases, advertisements and periodic newsletters, annual or other periodic reports, and hotlines.

2.7 Taking action

Operational planning and process control - Conditions must be in place for operations and associated processes to be carried out in a controlled manner to achieve waste reduction targets, meet obligations. To plan effective and efficient operational controls, it must be determined where such controls are needed and for what purpose. The type and level of control must be determined, maintained and periodically evaluated for continued effectiveness.

When determining the controls required, or considering changes to existing controls, consideration should be given to any unintended consequences that may occur. The organization should monitor changes and review the consequences of unintended changes, taking action to mitigate possible negative consequences as necessary.

Emergency Response - In preparing to respond to an emergency, consideration must be given to the initial impact it may cause and any secondary impacts that may arise. For example, in response to a fire, the possibility of air pollution should be considered.

2.8 Performance evaluation

Monitoring, measurement, analysis and evaluation - In order to focus resources on the most important measurements, the organization should select appropriate indicators that are easy to understand and that provide useful information for assessing environmental performance. The choice of indicators should reflect the nature and scale of the organization's operations and be appropriate for the impacts. Examples of indicators include physical parameters such as temperature, pressure, materials used, energy efficiency, packaging choices and transport.

Monitoring and measurement can serve many purposes in waste management, such as:

- tracking progress in meeting policy commitments, environmental targets and continuous improvement;

- providing information to determine significant aspects of the environment;

- Collect emissions and discharges data to meet compliance obligations;

- Collect data on the use of water, energy, or raw materials to meet targets;

- Provide data to support or evaluate operational controls;

2.9 Improve

Nonconformance Resolution and Corrective Action - One possible way to identify nonconformances is to report potential or actual problems to all individuals working under the organization's control.

Once a discrepancy is identified, it should be investigated to determine the cause(s) so that corrective action can be focused on the problem. Consideration should be given to what action should be taken to correct the problem, what changes should be made to correct the situation and restore normal operation(s), and what should be done to eliminate the cause(s) and prevent the problem from recurring or occurring elsewhere. The nature and timing of these actions should be appropriate to the nature and scale of the non-compliance and impact.

Continuous Improvement - Continuous improvement is a key attribute of an effective management system. It can be achieved through the achievement of targets and the overall improvement of waste management. An organization can encourage all employees to contribute ideas for improvement.

Example - improvement
Some examples of improvements include:
- Establishing a process for evaluating new materials to encourage the use of less harmful materials;
- Improve materials training and employee performance to reduce waste generation in the organization;
- introducing wastewater treatment processes to enable water reuse;
- change the default settings for the duplicator to print double-sided copies;
- Redesigning delivery routes to reduce the use of fossil fuels by transport companies;
- setting environmental targets for fuel switching in boiler operation and reducing particulate emissions;
- developing a culture of environmental improvement within the organisation;
- developing partnerships with stakeholders;
- Consideration of the sustainability of the organisation's business processes.

3 How to do it (practical approach)

3.1 Menu planning and portion control

Menu planning and portion control can be very effective methods to reduce food waste. Here are some guidelines and suggestions that may be helpful in this practice:

-Needs analysis: the way you plan your menu and control portions should be based on your individual needs. Estimate the amount of food you need and exactly what you want to include in your menu.

-Plan ahead: make a weekly or monthly menu, including a variety of meals. Distribute the food so that you use all the products as efficiently as possible. Prioritize the use of fresh, or perishable, produce before it expires.

-Use leftovers: use food leftovers from previous meals to make new meals. For example, leftover chicken can be used for soup or salad the next day.

-Control portions: determine the right portion size for your needs. It is common to serve more food than we can eat, leading to excess and food waste. Learn to recognize the right portion size for you and observe it carefully.

3.2 Inventory management

Inventory management in the HORECA sector plays an important role in reducing food waste. Here are some recommendations that can help in this regard:

- Demand and requirements analysis: research your customers' needs and preferences to determine the quantity and type of food you need. Analyze historical data as well as possible changes in demand to determine the amount of food that needs to be purchased.

- Purchase raw materials accurately :Ensure accurate and rational purchasing of raw materials, taking into account seasonality, demand and sales forecasts. Avoid over-purchasing products that lead to spoilage and food waste.

- Quality check and acceptance control:Ensure careful quality check of raw materials and food products received. If the products do not meet the requirements or have a short shelf life, return them to the supplier, or use them in priority.

- Efficient storage: use the right storage method and the right infrastructure to keep food fresh and durable for longer. Maintain refrigerators, warehouses and storage facilities in accordance with temperature recommendations and storage conditions.

- Technology tools and software solutions:Use specialized software solutions and technology tools for inventory management. These can help automate the ordering, shipping and tracking processes, reducing the risk of over-purchasing and creating food waste.

It is the chefs' responsibility to monitor stock levels, rotate inventory and properly store ingredients to prevent spoilage. Encourage the use of first-in, first-out (FIFO) to ensure that older ingredients are used before newer ones.

Inventory management in the HORECA sector can significantly reduce food waste, ensuring more efficient use of resources and improving the sustainability of your facility.

3.3 Food preparation techniques

It is recommended that chefs use food preparation techniques that minimize waste. For example, proper trimming and peeling techniques to reduce the amount of edible parts discarded. Emphasize creative ways to use leftover vegetables and food scraps, such as making broths or side dishes.

There are various food preparation techniques that can help in reducing food waste. Here are a few of them:

- Use all food: Instead of throwing away parts of food that are usually considered waste, try using them. For example, use the peel of citrus fruits to make a fragrant condiment or make juice from them. Use the stems and leaves of vegetables to make soups or pesto.

- Ingredients with priority: If you have food products that are approaching their expiration date, take the time to use them in the preparation of dishes. Prefer to use them before others to ensure they are eaten and not thrown away.

- Custom food preparation: prepare food to order when you have an accurate idea of the quantity needed. This will help you avoid over-preparation and reduce food waste.

3.4 Use of leftovers

Leftover ingredients and food products can be creatively incorporated into new dishes or specialties to reduce waste and maximize the use of resources. For example, use fries left over from lunch as a base for hashbrowns or use leftover carnata to make macaroni and sauce.

Here are a few more examples of using food scraps to reduce food waste:

- Remaining chicken meat: If you have leftover chicken meat, you can use it to make different dishes. For example, cut them into pieces and add to salad, soup or sandwiches. You can also use them to make chicken curry, tortillas, or ravioli.

- Remaining vegetables: leftover vegetables can be used to make a variety of dishes. For example, mix them with eggs and make an omelet or a pan with roasted vegetables. You can also add them to soups, sautes, or pasta.

- Leftover baked potatoes: If you have leftover baked potatoes from a previous lunch or dinner, you can use them to make new dishes. For example, cut them into slices and bake in the oven to get crispy potato chips. You can also use them to make potato meatballs, or potato salad.

- Leftover pasta or rice: if you have leftover pasta or rice from a previous dish, use it for a new dish. For example, add them to soups or casseroles, mix with beaten eggs to make an omelette-like dish, or turn them into a cold salad with added vegetables and spices.

- Leftover baked goods or bread: if you have leftover baked goods, cookies or bread, use them to make new desserts or snacks. For example, make a cake out of crumbs, turn them into croissants, or use them to make a pastry, tart, or French toast.

3.5 Serving main dishes and side dishes

The importance of the presentation of main courses and the use of appropriate garnishes is recognised. Creating visually appealing dishes minimises the need to over-decorate or garnish food, which may result in edible parts being discarded.

Communication with customers

Involves servers and bartenders to communicate effectively with customers about portion sizes and potential leftovers. An appropriate approach is to inform customers of portion sizes and offer takeaway container options rather than leaving food on the plate.

Order accuracy and customization

Emphasize the importance of order accuracy to avoid wasting food. Servers should clarify customer preferences and dietary restrictions at the time of order taking to prevent food preparation and unnecessary waste. Encourage customization options for meals to ensure customers get exactly what they want.

3.6 Impressive sales and promotions

This includes waiters advertising daily specials or items that use ingredients at risk of expiry. Encourage suggestive selling techniques to highlight these items to customers, reducing the likelihood of ingredients going to waste.

3.7 Waste monitoring and reporting

Monitoring and reporting food waste in restaurants and bars are important steps in establishing patterns, identifying potential problems, and taking steps to reduce waste. Here are some aspects to consider when monitoring and reporting:

- Determine goals and metrics: To start monitoring food waste, you need to set clear goals and metrics. For example, you can measure the amount of waste by kilogram or volume, or use a percentage of the total amount of food prepared. Set specific waste reduction targets and use these metrics to evaluate progress.

- Use logbooks or software applications: Depending on the size and complexity of your establishment, you can use logbooks or software applications to help record and track food

waste. These tools can help you account for waste, identify key areas of loss, and analyze data for process optimization.

- Classify waste: divide waste into categories, such as fruit and vegetables, meat, dairy, etc. This allows you to identify the specific areas where there is the most spoilage and focus on those areas to reduce waste.

- Analyse the causes of waste: investigate the causes of waste, including ordering errors, improper food storage, improper meal preparation or insufficient menu planning. Identify problem areas and take steps to correct problems.

- Regular reporting: produce regular reports on food waste that include data on raw material use, purchasing, waste and actions taken to reduce waste. These reports are useful tools for reporting progress and sharing information with stakeholders including staff, management team and suppliers.

3.8 Culture for sustainability and waste reduction

A culture of sustainability and waste reduction is a concept that promotes responsible consumption, resource use and awareness of the impact of our actions on the environment. This culture supports practices that reduce waste and help conserve natural resources. Here are some key aspects of a culture of sustainability and waste reduction:

- Awareness and education: education and information play an important role in creating a culture of sustainability and waste reduction. People need to be made aware of the impact of consumption, waste and our choices on the environment. A major focus is on educating staff on the importance of waste reduction, and encouraging them to actively participate and engage in waste management initiatives.

- Priority of prevention: in a culture of sustainability and waste reduction, great importance is attached to waste prevention. This includes selecting products with less packaging, optimal purchase planning, using reusable products and improving production processes to reduce waste material.

- Changing the consumer mindset: the culture of sustainability and waste reduction is changing the way we think about consumption. Instead of encouraging throwing away and constantly buying new things, it encourages responsible and sustainable use of resources.

A culture of sustainability and waste reduction requires collaboration and commitment from all levels of society. When people become more aware of the importance of waste reduction and implement practical actions in their daily lives, this can lead to significant improvements in the state of the environment and the conservation of natural resources.

By incorporating these principles into the training of Chef and Bartender occupations, we can equip learners with the knowledge and skills needed to actively contribute to reducing food waste in the HORECA sector.

4 Collection and separate storage of food waste

4.1 Correct methods for collection and separate storage of different types of food waste

The collection and separate storage of different types of food waste can help reduce waste and ensure more efficient waste management. Here are some methods and recommendations for the collection and separate storage of food waste:

1. Recycling:

Some types of food waste, such as metal and plastic cans, glass jars and plastic packaging, can be recycled. Local guidelines should be followed and recycling centres checked to ensure proper separation and storage of these materials. The use of separate containers or packaging to collect recyclable food waste is recommended.

2. Separate storage of fat and oil:

These are important processes that must be carried out in accordance with sanitary and legal requirements. Here are some recommendations for fat storage and redemption:

- Fats and oils should be stored separately as they can cause problems in drainage systems and contaminate the environment.

- Temperature requirements: Fats must be stored at appropriate temperatures to maintain freshness and quality. Generally, fats such as butter, margarine or olive oil should be stored in a cool, dry place, preferably at a temperature of 13°C to 21°C, depending on the type of fat.

- Protection from light and air: fats are susceptible to oxidation, which can reduce quality and lead to unusability. It is therefore important to store them in tightly closed containers or packaging that protects them from the effects of light and air.

- Proper separation of waste: make sure you have separate containers or receptacles to collect used grease. These should be clearly marked and placed in convenient locations in the kitchen to facilitate collection and redemption of used grease.

- Adhere to local legislative requirements: check local laws and regulations for buying used grease. There are restrictions and requirements for the storage, purchase and disposal of waste grease that must be followed. Check with local health authorities or regulatory bodies to become familiar with specific requirements.

- Getting a deal with a licensed supplier: the best practice is to contract with a licensed supplier to buy used grease. They should be authorized and have the necessary permits and capacity to handle the waste. Follow the buy-back procedures provided by the supplier and store the grease until collection in accordance with the instructions.

3. Preserving food waste: if possible, some of the food waste can be preserved, such as fruit and vegetable peels, to be used later in cooking soups or broths. This can help to reduce the amount of waste thrown away.

4. Freezing. Pre-portioned food scraps can be stored in freezers and used later to make different meals.

5. Use of biodegradable packaging: this includes the purchase of food products in biodegradable or degradable packaging that can be composted. This can be paper or cardboard packaging that is made from recycled materials.

6. Education and awareness. Consult local authorities, waste collection companies or retailers who can provide you with guidelines and containers for proper storage and disposal of waste.

It is important to comply with local regulations and guidelines for the collection and separate storage of food waste. This will help to optimise the use of resources and reduce the impact on the environment.

4.2 Identification of different containers and labels for separate storage

Different containers and labels are used to separate waste, including food waste. Here are some of them:

1. Bio-waste containers. They are usually made of plastic or metal and have a lid that prevents the spread of odours and insects. They are often green or brown and have inscriptions or symbols indicating that they are intended for organic waste.

2. Recycling containers. They are usually different colors depending on the type of material to be separately stored. For example, a blue container may be designed for paper, yellow for plastic, red for metal, etc.

3. Separate storage labels. They may include symbols, icons or text that clearly indicate what type of material should be placed in the container. For example, the label of a bio-waste container could include a food waste symbol or the words 'Bio-waste'.

4. Dedicated containers. For example, some locations may have separate containers for glass, batteries, electronics, and other specific materials.

It is important to follow the instructions and symbols on the containers and labels for proper waste separation. This helps to facilitate the recycling and reprocessing of waste, as well as protecting the environment.

3.3. Practical exercises for food waste collection and storage

4. Food waste processing

4.1. Methods for the treatment of food and bio-waste, including composting and anaerobic digestion

- Composting: Composting is the process by which organic materials, such as food waste, are naturally decomposed by micro-organisms, resulting in compost - a rich and nutritious material that can be used to feed the soil and improve plant growth. Special containers or compost heaps can be used to collect food waste for composting. This is one method of managing waste sustainably and converting organic material into a useful resource. It is important to separate only non-processed food waste, such as fruits, vegetables, nuts, eggshells and coffee.

Composting requires a combination of oxygen, moisture, heat, and proper balancing of materials. The right balance between green materials (nitrogen rich) and brown materials (carbon rich) is key to successful composting. Green materials include fresh grass, fruits and vegetables, while brown materials include dried leaves, branches, straw and the like.

Composting is an efficient and sustainable way to manage organic waste while creating a useful and natural product to feed the soil. It helps to reduce waste, protect the environment and improve the sustainability of gardens and farmland.

- Anaerobic digestion: anaerobic digestion is the process of decomposition of organic materials in the absence of oxygen. This process is carried out by specific microorganisms called anaerobic bacteria. These bacteria can break down organic matter, such as food waste, plant residues or sewage waste, and generate various products such as methane (CH4) and carbon dioxide (CO2).

Anaerobic digestion takes place in special conditions that ensure the absence of oxygen and create a favourable environment for anaerobic bacteria. Such conditions can be created in special reactors or septic tanks that are used to treat biodegradable waste or sewage effluent.

The process of anaerobic digestion has several important advantages and applications. One key aspect is the production of methane, which can be used as an energy source. The methane can be used to generate electricity and heat by being used in cogeneration plants or generators. This allows the conversion of biowaste into a renewable energy source.

In addition, anaerobic digestion is also used to treat waste with a high organic matter content, such as biowaste or wastewater. This process helps to reduce the amount of waste and produce methane, which is significantly less harmful to the environment than greenhouse gas (CO2).

- Fermentation: fermentation is the process by which microorganisms break down organic materials under the influence of enzymes. This process can be used to process biowaste, producing a product called a biologically active additive (BAA). These BAAs are used in agriculture and horticulture as a soil conditioner and plant growth stimulant.

- Pyrolysis: Pyrolysis is the process of decomposition of organic materials at high temperature in the absence of oxygen. This method is used to process various types of bio-waste, producing different products such as liquid fuel, gas and solids. It can be one of the alternative technologies

to produce energy and chemicals from renewable sources while reducing dependence on fossil fuels and reducing greenhouse gas emissions.

4.2 Use of technological solutions for food waste processing

Different technological solutions can be used for food waste processing in the HORECA sector. Some of them include:

1. Compost systems: these are systems that convert food waste into compost through the natural process of bio-waste decomposition. Compost systems can be incorporated into HORECA establishments and convert waste into a useful fertilizer for gardens and agricultural areas.

2. Biogas systems. The biogas can be used to generate electricity and heat. Such systems can be built in large kitchens or hotels where there are significant amounts of food waste.

3. Industrial composting systems. They use a controlled decomposition process that turns the waste into quality compost for agricultural and garden purposes.

4. Thermal treatment. These processes expose the waste to high temperatures, allowing it to be converted into energy or other useful products.

5. Hydrolytic treatment. This method can be used to produce various products such as chemical ingredients or biogas.

These technological solutions provide different options for food waste processing in the HORECA sector, reducing the amount of waste and ensuring sustainable resource management. The choice of a specific technology depends on the volume and characteristics of the waste, the availability of resources and the specific requirements of the plant.

4.3 Tasks and responsibilities of the employees of the HORECA sector in waste treatment

Those employed in the HORECA sector play an important role in waste treatment and are responsible for the following tasks:

1. Proper separation of waste. They must understand the difference between bio-waste, recyclables and other types of waste.

2. Efficient use of raw materials: those involved in the sector should aim to use raw materials efficiently and reduce the amount of food wastage. This includes menu planning that uses ingredients in a way that reduces waste, and the proper storage and use of food to prevent it from going bad or spoiling.

3. Proper waste handling: workers must take care to handle waste properly, following the guidelines and procedures for separate storage and disposal. This includes using appropriate containers, labelling and maintaining hygiene standards when handling waste.

4. Cooperation with external suppliers and institutions. They should ensure proper storage and transfer of waste and cooperate in the development of sustainable waste management plans and strategies.

5. Promoting sustainable practices: employees in the HORECA sector have the opportunity to promote sustainable practices in their workplaces and among clients. They can encourage customers to use reprocessed and recycled products, avoid food waste and engage in waste reduction programs.

5 Stimulating sustainable practices in the HORECA sector

5.1 Awareness raising and staff training on food waste management.

Awareness raising and staff training on food waste management are key elements in creating a culture of sustainability and waste reduction in the food sector.

5.2 Build partnerships with local organizations and communities to support sustainable practices.

Contracting with local farms: restaurants can contract with local farms or gardens to buy fresh produce directly from them. This reduces the need for excessive amounts of raw materials and ensures the freshness and quality of the food

5.3 Measures to monitor and evaluate the effectiveness of food waste management

To monitor and evaluate the effectiveness of food waste management, the following measures can be applied:

1. Data collection and statistics. This can be done by systematically measuring and documenting waste in the different phases of food production, preparation and service.

2. Waste analysis. This analysis can reveal certain types of food or processes that generate the greatest amount of waste and help in taking more effective measures.

3. Setting targets and indicators. These targets may relate to reducing the overall amount of waste, increasing recycling rates or introducing specific practices to reduce food waste.

4. Process monitoring. This may include monitoring food preparation and serving processes, checking compliance with storage standards and putting in place a waste control system.

5. Daily waste management. This includes proper separation, storage and disposal of waste, as well as opportunities for treatment and recycling.

6. Evaluation and retrospective analysis. Retrospective analysis can help in understanding the causes of waste and suggest corrective measures for the future.

These monitoring and evaluation measures can help companies in the HORECA sector track and improve their food waste management, ultimately reducing negative impacts on the environment and society.

6 Waste management approaches in participating countries:

The EU and its Member States have different approaches to waste treatment, including food waste. Below is information on the approaches and tools used in Bulgaria, Croatia, Greece, Malta and Spain:

6.1 European practices at the moment

European Commission - Directorate-General for Environment - GUIDELINES FOR THE DEVELOPMENT OF PROGRAMMES TO PREVENT FOOD WASTE

Food waste is currently managed together with other biowaste, we look at the current management of biowaste in this section. Between 118 and 138 million tonnes of bio-waste are generated each year in the EU, of which 88 million are considered part of municipal waste. Bio-waste is expected to increase by an average of 10% by 2020. An estimated 30% to 40% of the mass of municipal solid waste generated in the EU-27 is bio-waste. The Irish National BioWaste Strategy estimates that up to 60-70% of MSW generated in the EU-27 is biodegradable, more than half of which is currently landfilled.

There are various options for biowaste treatment, namely composting, anaerobic digestion, landfilling, incineration and mechanical and biological treatment. In 2008, 17% of the waste processed in the EU-27 was composted, i.e. transformed into organic fertiliser, between 1995 and 2008 annual increases in the amount of composted municipal waste were observed. There is a strong distinction between MSW in terms of approaches to treatment:

- States dependent on incineration of waste diverted from landfills, combining high levels of material recovery and strong strategies to promote biological waste treatment.

- Countries with high material recovery rates and very high composting rates but very little incineration.

Landfill-dependent countries where lack of alternatives makes diversion difficult.

Less than 20% of bio-waste is landfilled in Austria, the Netherlands and Denmark, while more than 80% is landfilled in Ireland, Spain and the UK. Nevertheless, the quantities of bio-waste landfilled are expected to decrease by up to 38% from 35.7 Mt in 2008 to 15.1 Mt in 2020. This bio-waste is expected to be diverted from landfilling towards composting, mechanical and biological treatment and anaerobic digestion.

6.2 Practice in Bulgaria

Analysis of schemes - Extended liability but producers and POs[3]

[3] https://www.moew.government.bg/static/media/ups/tiny/%D0%A3%D0%9E%D0%9E%D0%9F/%D0%9D%D0%9F%D0%A3%D0%9E-2021-2028/1.8.%20Analiz%20shemi%206%2011%202020.pdf

The Household and Other Generator Responsibility Scheme covers all household waste streams (except MRE, which is managed through the Extended Producer Responsibility Scheme) generated by households and from sites similar to households. It is not necessary to extend the material coverage of the scheme, but it is necessary to extend the territorial coverage of separate collection systems for municipal waste streams covered by the Household and Other Producer Responsibility Scheme to municipalities where separate collection of the waste streams covered by the scheme is not yet taking place, in particular of municipal green and food bio-waste, as well as household hazardous waste; municipal paper and cardboard waste, metals, plastics and glass

Separate collection systems for the following waste streams and materials shall be implemented throughout the country or in a limited number of municipalities or settlements in the country:

- Packaging waste (paper and cardboard, plastic, glass, metals, wood)

- Hazardous household waste

- Municipal waste of paper and cardboard, metals, plastics and glass excluding packaging waste

- Green biowaste

- Food biowaste

- Waste household textiles

- Waste ash and cinders from the burning of wood and coal for domestic heating by households

- Oversized household waste (such as furniture, mattresses, etc.)

- Construction and demolition waste

- Construction waste from household renovation works

- Waste from the territory of medical and health institutions.

Food household bio-waste

As of 2020, only Sofia Municipality, which has a functioning anaerobic food waste plant with a capacity of 20 000 t/year, has built a separate food waste collection system. In three other regional municipal waste management systems, three more installations are being built by 2020 with CFP 2014-2020 funds: Burgas (South-Eastern Bulgaria), Ruse (North-Eastern Bulgaria) and Blagoevgrad (South-Western Bulgaria) and once these are operational, the separate food waste collection systems in these regions will also start functioning.

In accordance with Chapter Three "Bio-waste Management" of the REGULATIONS for Waste Management and Maintenance and Protection of Cleanliness on the Territory of Sofia Municipality, the Mayor of Sofia Municipality:

1. organize a municipal system for separate collection of *bio-waste* from the maintenance of public areas, parks, gardens, inter-block spaces, *food and kitchen waste from restaurants, catering establishments, commercial and other facilities* on the territory of the municipality;

2. ensure conditions under which the holders of municipal bio-waste included in the system referred to in point 1 are served by persons who are entitled to carry out activities for their collection, transportation and transfer for recovery and/or disposal.

Food and kitchen bio-waste from persons whose activities generate municipal bio-waste and are covered by the municipal system for separate collection of bio-waste shall **be collected separately** *at the source of generation*.

Food and kitchen bio-waste from the persons whose activities generate it shall be collected in bio-waste collection containers - reusable containers, buckets, biodegradable disposable bags.

Reusable containers shall be **brown**, moisture-proof, sufficiently strong and resistant to breaking or cracking under normal conditions of use, tightly closed, easily cleaned, and clearly *marked* with a visible and indelible label containing information on the type of bio-waste collected in them.

The system shall be introduced by order of the Mayor of Sofia Municipality and shall include all schools, kindergartens, *public catering establishments,* markets, commercial establishments, hotels, medical establishments and other establishments on the territory of Sofia Municipality whose activities generate *food and kitchen bio-waste*.

The containers for separate collection of bio-waste **shall be provided by the Mayor** of Sofia Municipality **or by the contractors** under individual contracts for *separate collection and transportation of* bio-waste.

Persons in possession of bio-waste and covered by the organized municipal separate collection system are obliged to:

1. designate persons responsible for the separate collection of food and kitchen bio-waste;

2. designate locations for the placement of the bio-waste receptacles, preventing access of outsiders and animals to the receptacles;

3. dispose of the generated food and kitchen bio-waste in the special containers provided to them;

4. hand over and/or dispose of the bio-waste from green areas at the locations designated by the Mayor of Sofia Municipality;

5. protect bio-waste containers by preventing damage to them.

Prohibited:

1. the damage of bio-waste containers, as well as the ignition of waste inside or outside them;

2. the mixing of separately collected bio-waste **with other types of** waste;

3. the disposal of bio-waste **in mixed municipal waste collection containers in the** *presence of established systems for separate collection* of bio-waste;

4. the disposal of bio-waste **in separate waste collection bins**; in the sewerage system and places of public use, as well as directly on the soil;

5. the disposal of bio-waste from the maintenance of green areas (branches, noise and wood waste) outside the designated areas.

According to the Regulation on separate collection and treatment of biodegradable waste, a target for 2020 has been set - the biodegradable waste allowed for landfilling in the respective region is 109 kg/capita and separate collection of bio-waste is mandatory from 2023, Biodegradable waste from parks and gardens, food and kitchen waste from households, restaurants, catering and commercial establishments, and similar waste from food processing establishments.

6.3 Practical guidelines for action in catering establishments

6.3.1 Measuring food waste - identifying aspects

Food waste prevention is one of the approaches used for better management. Its advantages are related to reducing costs, achieving better living conditions for at-risk social groups, improving awareness and zero waste practices.

The first step to improving food waste management is to measure it.

It is difficult to solve a problem without first understanding it. Detailed waste surveys are a way to measure and understand the amount, types and sources of waste on site. Food waste can occur during preparation (kitchen waste), during serving, and during and after customer meals (post-consumer plate waste). These reviews are an opportunity to engage staff in immediate, practice-based training.

Most waste reviews involve sorting and measuring waste categories. Measuring weight and volume provides useful data for most categories, such as food scraps or recyclables. Counting and weighing are useful ways to determine the amount of non-eaten recoverable food,. Photographs can also provide valuable waste data. The review can also be used to analyse practices and actions that influence waste generation.

- What to be measured

In this process, materials should be separated into different categories and information will be gathered on recoverable food, liquids, recyclables, food scraps, and landfill waste (for the municipal system). If there is an on-site composting option where only fruit and vegetable scraps are composted, then one bin should be provided for fruit/vegetable scraps and another for all other food scraps as they cannot be composted in an on-site compost bin. If there is interest in

which foods are the greatest wastage, further information can be sought for each food type or food group on the menu and different collection bins can be provided. For example: for recoverable food, liquids, recycling, landfill waste, leftover entrees, leftover fruit, leftover vegetables, leftover grains, etc.

Tracking food waste in the kitchen will provide the most reliable information on aspects of the processes.

- ✓ Tracking food waste in the kitchen

Kitchen food waste is generated during food preparation, as well as serving and consumption. Countries with food waste management in place at national level advise food service establishments (restaurants, eateries, canteens, etc.) to systematically track food waste, which includes daily weighing and record keeping for each operation. This can be done manually or with online tracking systems. Tracking food waste in the kitchen engages everyone involved in identifying and addressing the root causes of food waste. Performing a waste audit before implementing any waste reduction strategies will help:

- to understand which ways of preventing and reducing waste will have the highest impact

- Establish a baseline (the level against which the results will be compared)

- Identification of supplies and equipment that will be used to implement the plans

- Provide a visual picture of food waste to attract staff attention

- Provide the mass/volume of food scraps that can be composted, which will allow to estimate the level and cost of transportation

- Provide data to demonstrate progress - (environmental, financial and social)

- Measure the amount of recoverable food to determine if a donation program is warranted

- Estimation of the mass/volume of recyclable materials

- Identify opportunities to reduce non-food waste (service equipment and packaging)

- Identify opportunities for waste reduction

A follow-up waste audit (once waste reduction strategies are in place) will demonstrate the effectiveness of the measures implemented. It should be borne in mind that waste levels vary from day to day due to menu variations.

- ✓ Analysing waste audit data

Once the sorting and weighing is complete, ways of analysing and using the data need to be prepared. Here are some ideas:

- graphical representation of the data.

- photos showing the waste sorted by category (preferably in one photo), the contents of the containers before sorting and the involvement of staff.

- Based on the results of the one-day audit, you can extrapolate data for an entire year by multiplying the mass or volume of each category by the number of days in the school year. To be more useful for understanding, it should be expressed in accessible terms, such as number of elephants or something else. Units of measure are also important.

- Calculate the impact on the environment using models - e.g. amounts of CO2 produced.

6.3.2 Food waste prevention

Menu planning and food preparation

6.3.3 Recover and redistribute excess food

In the Republic of Bulgaria, food banking is regulated in the Food Law, which defines food banking activities, requirements for food producers and traders on how to label food intended for donation, and requirements for a system of accountability for food bank operators.

Food banking is a set of activities that aim to provide food free of charge to people in need and to social providers.

Food banking is carried out by persons registered under the Non-Profit Legal Entities Act, designated to carry out activities for public benefit, who have obtained **a food bank operator's permit**.

The food banking activities are:

1. free provision of food from:

(a) producers and traders of food of a food bank operator;

(b) operator of a food bank for needy persons and persons providing social services;

2. warehousing, storage and/or packaging and/or repackaging of food provided free of charge to a food bank operator.

The list of foods subject to food banking shall be approved by an order of the Minister of Agriculture, Food and Forestry in coordination with the Minister of Finance upon a reasoned proposal of the Executive Director of the Bulgarian Food Safety Agency. The order and the list shall be published on the websites of the Ministry of Agriculture, Food and Forestry and the Bulgarian Food Safety Agency.

The list shall also contain information on the periods during which the food shall be made available free of charge. The periods shall be determined on the basis of the minimum shelf-life or expiry date of the food concerned.

When carrying out food banking activities, persons authorised as food bank operators are food business operators within the meaning of Article 3(3) of Regulation (EC) No 178/2002.

The Bulgarian Food Safety Agency monitors the activities of food bank operators for the safety of the food provided free of charge.

For the issuance of a food bank operator's permit, persons shall submit an application form to the Executive Director of the Bulgarian Food Safety Agency.

The Bulgarian Food Safety Authority maintains on its website a public register of issued permits for food bank operators.

The Council of Ministers by Regulation determines the specific requirements for carrying out food banking and the control over this activity.

6.3.4 Composting food scraps

Composting is a way of recycling food scraps and other organic materials. Decomposition occurs naturally in nature when soil organisms, such as bacteria, fungi, worms and insects, consume organic matter for their own energy and create soil nutrients in the process. When we compost, we create conditions that optimise and speed up the decomposition process carried out by soil organisms.

Composting offers many curriculum connections and leadership opportunities. It connects kids to science, math and engineering while keeping food waste out of landfills, instead nourishing the soil. And that compost can be used to grow healthy food. Composting is easy if you plan well and get everyone involved.

- Benefits of composting

Composting has environmental, economic and educational benefits.

Composting provides many environmental benefits:

- Reducing food waste is one of the most effective ways to help mitigate climate change. When food and other organic materials decompose in the oxygen-free environment of a landfill, methane is produced. Methane is a greenhouse gas that is 84 times more potent than carbon dioxide over a 20-year time period. Soils amended with compost also release carbon; the process of capturing and storing carbon dioxide in the atmosphere to reduce climate change.

- Adding compost to the soil returns nutrients that maintain the soil's food web. Compost also improves soil structure and water retention, reduces stormwater runoff, and minimizes the need

for synthetic pesticides and fertilizers. - Diversion of food waste through composting expands landfill capacity.

- Recycling efforts typically increase when composting is implemented because more attention is paid to sorting and tracking waste.

There are also economic benefits of composting. Removing food waste from mixed municipal waste can significantly reduce its volume, resulting in lower disposal costs. Other economic benefits include job creation and turning what was once an environmental and financial liability into a valuable commodity.

Composting in can be used to educate staff about the link between wasted food and climate change and provides a practical way to learn about a closed food system. Composting can also provide leadership opportunities by engaging participants in the dining hall sorting process and maintaining an outdoor compost bin.

- Types of composting

The primary methods available to food service establishments for composting food scraps are on-site composting or transfer to the municipal organization system - off-site.

- Logistics

Each day, staff sort compostable waste into separate bins. These are taken to the composter and chopped up, poured out and covered with 'brown' waste - leaves, dry grass or straw. The containers are cleaned when returned to the kitchen.

Over the course of about three months, food scraps and other organic matter are transformed into nutrient-rich compost. Volunteers spread the finished compost in the flower gardens, observing the regulations for its use.

Conducting a waste audit will help you estimate the volume of food scraps and other compostable materials generated in a typical day. For on-site composting, this information will help you determine the number of bins needed.

6.3.5 Staff training and engagement

Dealing with food waste at school can be a focal point for learning. Food waste is an authentic problem and provides excellent opportunities for place-based and project-based learning. Place-based learning is an educational approach that uses the worker's own environment as the basis for a hands-on learning experience. Project-based learning engages everyone in solving real-world, often complex problems and cultivates critical thinking, creativity, and communication skills.

By actively participating in food waste reduction efforts, teams learn the environmental, economic and social impacts of food waste.

Food and food waste curricula

✓ Tools and resources for training

- Engage staff to take action against food waste

  ✓ Ways to engage

Food waste reduction projects can be one-time events or longer-term efforts. Some activities may be integrated into a project or overall program.

Do an initial waste review to engage staff and build data collection and analysis skills.

6.3.6 Communicating success

The organization must use documented information to ensure that identified competency needs are addressed, progress on correcting deviations is tracked, and the opportunity is given to communicate relevant information to stakeholders. At a minimum, appropriately documented information should be retained as evidence of competency.

Important to effective communication is seeking and providing feedback, working to create a culture of constructive two-way feedback. Management must use it to generate the desired behaviors and outcomes?

Important for this purpose is also the art of listening: this is an underrated way to motivate people.

Conduct workshops and briefings: there are specifics in team meetings and individual conversations.

At every team meeting, regardless of the occasion, a presentation of accomplishments should be planned. These accomplishments should also be the basis of all appearances to external audiences as well as in the advertising of the facility.

Conclusion

Managing food waste in the hospitality, restaurant and catering (HORECA) sector is essential to achieving sustainability and responsible consumption. The HORECA sector faces challenges related to the significant amounts of food waste that are generated every day as a result of cooking, serving and serving food.

Professional training in food waste management in the HORECA sector aims to encourage those involved in the sector to implement effective practices aimed at reducing waste and optimising the use of resources. The training highlights the importance of product planning, proper food storage and culinary techniques that can reduce the amount of excess products.

Conscious management of food waste in the HORECA sector not only improves the economic efficiency of businesses, but also contributes to a range of social and environmental benefits. Reducing waste can contribute to reducing waste management costs, improving public perception and resource efficiency.

Encouraging innovative practices is a key element in building a sustainable and successful business model in the HORECA sector that is aligned with the social and environmental challenges of today's world.