



**REPUBLIC OF TÜRKİYE**  
**MINISTRY OF ENVIRONMENT,**  
**URBANIZATION AND CLIMATE CHANGE**  
GENERAL DIRECTORATE OF ENVIRONMENTAL MANAGEMENT



## ZERO WASTE MANAGEMENT SYSTEM IMPLEMENTATION GUIDELINE

# ZERO WASTE BLUE



# ZERO WASTE *Blue*





# PREFACE

The amount of waste has been increasing gradually in our country as a result of the population growth, increased purchasing power, and technological developments from past to present. This increase necessitates sustainable and integrated waste management through a Zero Waste Management approach.

Direct disposal of waste without applying recycling and/or recovery process results in loss of both material and energy resources. Based on its multifaceted relations with technical, economic, and social disciplines, sustainable waste management entails zero waste management in the framework of integrated waste management hierarchy with a focus on waste prevention, reduction, reuse, recycling, and recovery.

To ensure the protection and improvement of our natural resources and ecosystems, and the creation of a healthy and liveable environment for the current and next generations within the scope of the responsibilities of our Ministry to generate plans, develop policies, and set targets regarding the zero waste management system, 11 implementation guidelines were prepared with due regard being had to the sustainability principles, international norms, and national priorities in order to include various stages such as waste prevention, waste minimization at source, sorting by types, collection, transportation, temporary storage, reuse, and recovery. The guidelines are as the following: Guideline for Local Authorities, Guideline for Organized Industrial Zones and Industrial Facilities, Guideline for Airports and Terminals, Guideline for Shopping Malls, Business Centres, Commercial Enterprises and Plazas, Guideline for Educational Institutions and Dormitories, Guideline for Healthcare Organizations, Guideline for Tourism Facilities, Guideline for Rural Areas, Guideline for Institutions and Organizations, Guideline for Households and Housing Estates and Zero Waste Blue Guideline.

Zero Waste Implementation Guideline has been developed to determine design and planning criteria, assessment factors, and implementing principles of the Zero Waste management system in terms of administrative, financial, and technical aspects as well as to lead target audiences for the development, improvement and promotion of the Zero Waste Management system.

The Zero Waste approach should be implemented with utmost care and precision based on a common objective and language set by the relevant stakeholders in order to realize high-quality practices, prevent waste generation, and ensure cost-efficiency.

Prepared in line with the purposes of making sure that the principles of zero waste approach are understood, establishing the baseline, ensuring the progressive promotion and sustainability of the system, and drawing a roadmap for zero waste management aimed at all the related stakeholders, I wish that the Guideline will be auspicious to all relevant parties and our country.

I also take this opportunity to thank all the institutions, organizations, and our staff that contributed to the development of this Guideline.

**Murat KURUM**

*Minister of the Environment, Urbanization and Climate Change*

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## ZERO WASTE MANAGEMENT

This guideline is prepared to assist a systematic transition to the zero waste management that should be completed on the specified dates and include general information, and activities to be carried out.

## DESIGNATION OF A WORKING TEAM

It is considered necessary to establish a working team by designating one person or more who will be in charge of monitoring the process, from establishment of the zero waste management system through its implementation.

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## PLANNING

For the planning stage, it is important to identify waste type and sources as well as the states of equipment used, and sustainability of the relevant staff. The factors affecting waste types and amounts should also be determined.

## TRAINING/AWARENESS-RAISING ACTIVITIES

It is important to organize training and awareness-raising activities for the target audience and encourage them to participate in such activities to ensure promotion of the zero waste management system.

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## MONITORING, RECORD-KEEPING, AND IMPROVEMENT

The working team monitors the implementation at certain time intervals to assess its effectiveness and identifies, if any, problematic points, deficiencies or matters to be improved to take measures so as to eliminate them.

# ZERO WASTE BLUE

The coastline of our country are facing significant environmental problems due to industrial facilities established as a result of rapidly increasing industrial activities due to the opportunities which are offered by the coastal regions of our country; urbanization concentrated especially in coastal areas; tourism activities on land and sea; maritime transport; and domestic and industrial pollution from inland areas via surface waters.

After the implementation of the Zero Waste system, the necessity of coasts and water protection during the implementation has been taken to the account. Zero Waste Blue was initiated to support the protection of sea and water bodies and carry out public awareness-raising and training activities. As long as approximately 80 percent of the pollution reaching marine environment originates from land, it is obvious that any action done on land to protect the environment and reduce waste generation, will support efforts to protect the seas. The implementation of zero waste system by coastal facilities and businesses that are in direct relation with marine and water bodies also supports the Zero Waste Blue Movement.

The fact that, despite all measures and actions taken, waste reaches seas and coasts through various ways and means, and marine litter is one of the significant environmental problems have been experienced until today. It is essential to plan new measures including the principle of prevention at source, that will prevent or mitigate the harms of existing marine litter to marine environment.



# MARINE LITTER

Marine litter, as the principal cause of marine pollution, refers to materials that are generated or used by people, dumped in rivers or left on beaches, arriving at the sea indirectly through rivers, wastewater, rainwater or wind, or lost accidentally on the sea due to adverse weather conditions (such as fishery equipment, cargo).

- Marine litter may originate from land or sea. It may be found on the sea as well as it can reach the sea indirectly by rivers, wastewater, wind and waves.
- Approximately 80% of the marine litter comes from territorial sources. Therefore, any waste left on land would poses a risk to become marine litter.

The term MARINE LITTER, brings up images of plastics since the majority of marine litter consists of plastics. Due to light-weight structure of plastics, they can be carried to distant points easily, remain for a long period of time in the nature, and transform to microplastics through fragmentation without being destroyed.

Approximately 300 million tonnes of plastics is produced around the world every year. Considering that, the production of plastic materials began in the early 1900s and remained in the nature without disappearing on its own, it can be said that the first plastic materials produced do still exist in the nature.

Marine litter can be carried from the origin point to distant continents and even oceans as the seas have a transboundary nature. Ocean currents result in five major ocean cycles, in which the plastic waste in the oceans is concentrated, according to oceanographers. This means that, by being carried to the most distant and uninhabited regions around the world through ocean currents, plastic waste would have adverse effects on human beings, other forms of life, and ecosystems on a global scale. The biggest of these regions is the one called the “Great Pacific Garbage Patch” in the Northern Pacific. This area is approximately twice of the surface area of Turkey, and is estimated to contain 80,000 tonnes (1.8 trillion pieces) of plastic waste.

During surveys conducted in the Mariana Trench, the deepest point in the world with a depth of 11 km into the Pacific Ocean, plastic particles were observed apart from sea creatures. Furthermore, scientists found plastic particles in the ice cap glaciers in the Arctic Region. Surveys indicated that there were also microplastic particles in the ice cap glaciers.

Around half of the 8 billion tonnes of plastic generated to date is estimated to have accumulated in the seas. The area covered by such accumulation is larger than the surface area of European continent. Every year, approximately 8 million tonnes of garbage reach the seas and oceans around the world. This means that a garbage truck is discharged to seas every minute. Marine litter poses a significant and ever-increasing threat to health, environment and economy.

In summary, when we consider the “marine litter problem”, it should be known that:

- Their existence on the beach would cause a visual pollution and has an adverse effect on the tourism sector.
- Cleaning the existing garbage requires a great labour force and is costly.
- The garbage left randomly is caught by fishery equipment and ship’s propellers, and would harm such equipment.

- The garbage pieces reaching the seas entangle many sea creatures such as turtles, crabs, fish, and hinder their ability to move, and would cause infection, or a painful death due to obstruction of their throats or respiratory tracts.
- Due to the colour and odour of plastics, several kinds of animals perceive them as food and consume them. This causes death of such animals as they cannot digest plastic particles.
- Large amount of garbage accumulating at the bottom of seas destroys the ecosystem and habitat of benthic marine organisms.
- Marine litter is broken to pieces as small as microscale particles. The number of these microparticles is quite high that some people call seas as a “massive plastic soup”. Fish perceive microplastics as food and consume them; Then, fish is eaten by people so that those microplastics are transferred to human body.
- Garbage pieces that are on beaches may cause injuries

Marine litter is considered a global problem as it threatens the oceans, seas and rivers, as well as the health of creatures living in and interacting with the ecosystems. Because of these effects, marine litter is one of the priority issues both at national and international levels. Therefore, Türkiye prepared provincial action plans to combat marine litter problem in all of its coastal provinces and started to implement these plans in 2020.

Provincial action plans for marine litter were prepared for a 5-year period by commissions chaired by the respective Governors, with contributions from different stakeholders such as relevant institutions, organizations and non-governmental organizations in the provinces. Provincial action plans include the following actions:

- » determination of areas that pose a risk in terms of marine litter, taking into account the geographical location and general situation of provinces;
- » research, monitoring and evaluation studies;
- » development of region-specific solutions;
- » identification of waste sources and current situation, and removal of the garbage;
- » planning how to prevent generation of waste; and
- » public awareness activities.

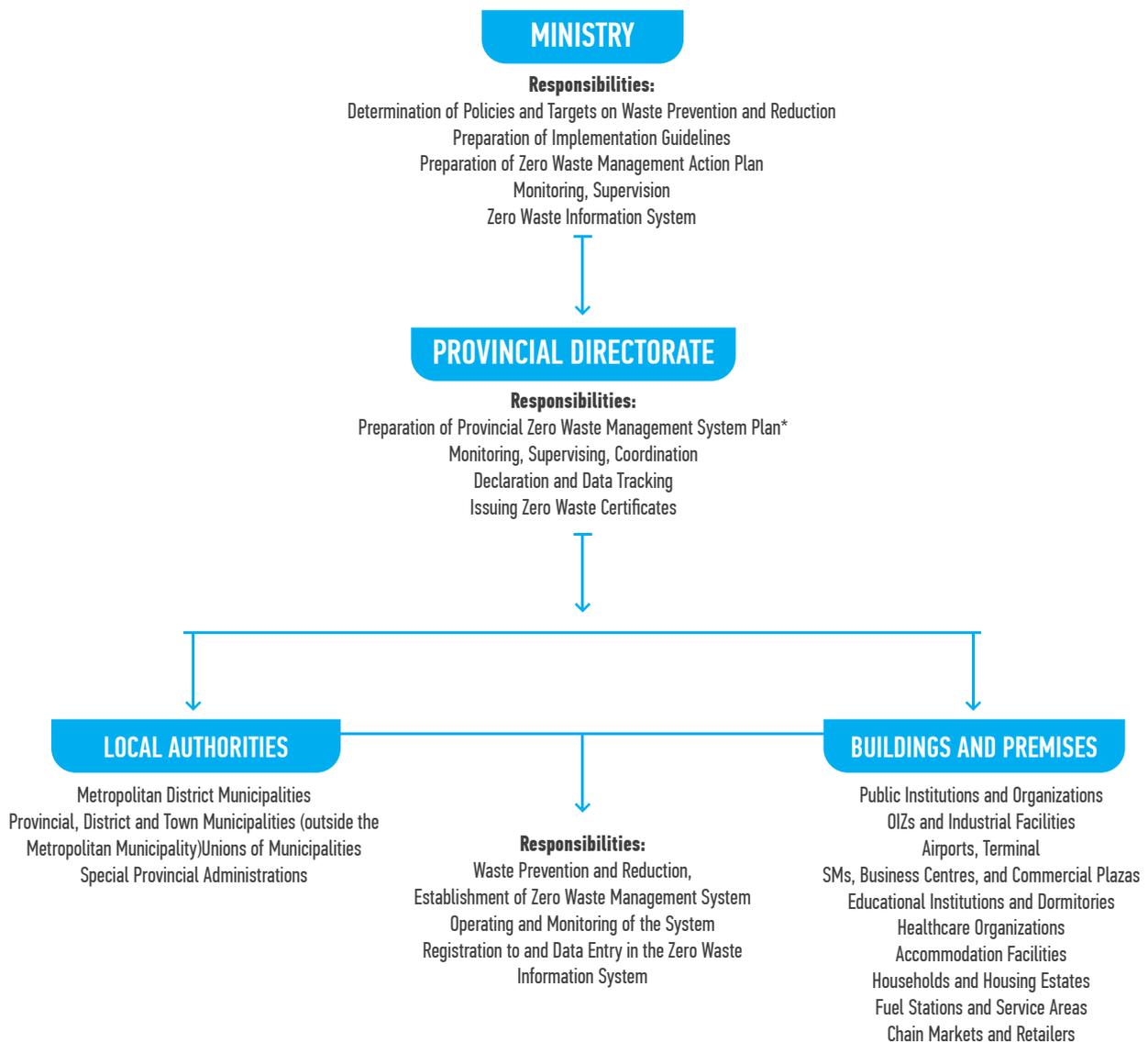
The Zero Waste Blue initiative and provincial action plans for marine litter also enable establishment of barrier-like structures at estuaries in order to capture marine litter before reaching the sea. These structures, i.e., barriers, are regularly cleaned by staff working for this purpose.

Furthermore, there are sea sweepers used for collecting solid waste and marine litter floating on the sea surface so that seas are always kept clean, and marine pollution is further prevented.

# GUIDELINE FOR THE IMPLEMENTATION OF ZERO WASTE AT PORTS, MARINAS, BEACH HOTELS AND BEACH BUSINESSES

This guideline covers general information, activities and plannings as well as principles on monitoring and improvement with regard to zero waste management (ZWM). In Türkiye, ZWM is realized mainly in 2 branches: Local authorities, and buildings-premises. Responsibilities of each implementer are presented below. Provincial ZWM plans are prepared and implemented by a commission designated by the Local Environmental Board under the coordination of the Governorship. ZWM plans require implementers to carry out the necessary activities in accordance with the recommendations given in this guideline, to accomplish waste prevention, reduction and separate collection through the completion of essential infrastructure works, and to provide the acquired data in the Zero Waste Information System.

**Table 1. Responsibility distributions in ZWM**

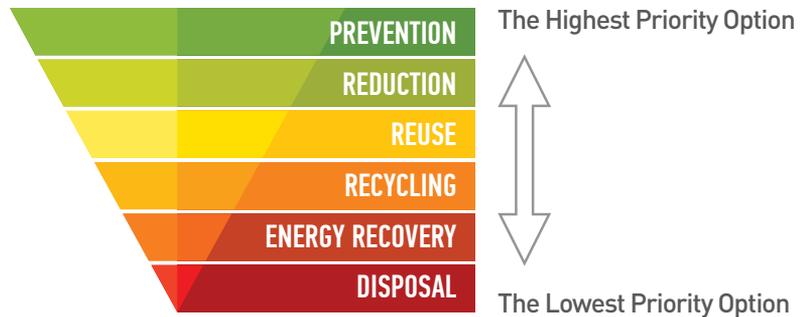


\*To provide local environmental boards with agenda and technical support in the preparation of the Provincial Zero Waste Management System Plan

# WHAT IS ZERO WASTE?

“Zero Waste”, which ecological design criteria lay the foundation of, is a waste management philosophy that covers waste prevention and reduction, more effective use of resources, separate collection of waste at source, and waste recovery as well as it is an approach that considers lifecycle of waste in order to ensure cultural, economic and social development.

**Table 2. Waste management hierarchy**



In ZWM, it is essential to reuse products, extend their lifetime, avoid or reduce use of hazardous substances in production and manufacture recyclable products.

The waste management hierarchy (Table 2) lays the foundation of the ZWM system. Accordingly, waste prevention, waste reduction, and waste reuse are among the steps of ZWM system. Waste that cannot be reused or recycled must be utilized through material or energy recovery applications. Establishment of ZWM system is also important in order to reduce the cost that will be required for environmental pollution treatment facilities.

To achieve a successful management model, ZWM system should be planned in design phase of any living arrangements such as housing estates, buildings, neighbourhoods, streets, public squares, schools, plazas, shopping malls (SMs), airports, OIZs and industrial facilities, market places, and educational, healthcare and tourism facilities.

It is ideal for buildings and living arrangements to be constructed in compliance with ZWM by preparing plans prepared in the design phase. If it is impossible to achieve the ideal, one can get the result by following the implementation steps, which consists of 4 (Table 3), to establish ZWM system.

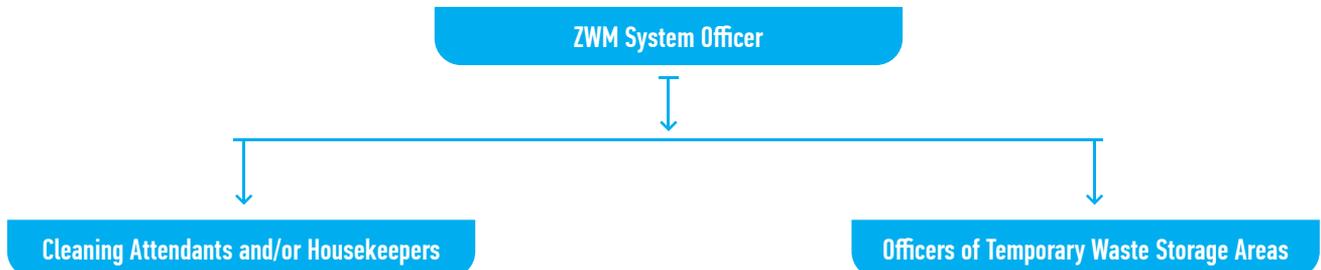
**Table 3. Implementation steps of ZWM system**



# 1. DESIGNATION OF A WORKING TEAM

A working team should be organized by designating people who will be responsible for process management starting from the establishment of the system to its implementation and control.

Table 4. Establishment of ZWM system working team



\* Working team may be expanded or diversified according to the needs of institutions. You may also involve the waste management officer of the coastal facility and offshore area in the working team.

**Zero waste team should undertake the following main tasks for a successful implementation.**

- Specify what needs to be realized in order to prevent and reduce waste,
- Supply the necessary equipment/units for separate waste collection and transportation, and ensure the waste delivery to be done to the licenced facilities,
- Inform and train the support staff,
- Record all the activities carried out, and report their environmental, social, and economic impacts along with the related data to authorized people and/or departments
- Organize awareness-raising activities, such as introductory films, events, etc., to increase the success of the ZWM system



## 2. PLANNING

Planning is the most significant step for an effective waste management. At this step, a baseline analysis will be carried out; principles with respect to waste prevention and reduction will be determined; and needs will be analysed.

### 2.1. Baseline Assessment:

The main purpose of baseline assessment is to identify waste types, and in what quantity and frequency they are generated, the results of which will shape further planning practices. Baseline assessment specifies the following data:

#### Regarding places:

- Number of employees (in total and by sub-units)
- Mobile population (number of customers and visitors)

#### Regarding waste stream(s):

- Source and quantity,
- Types and characteristics,
- Reasons of generation ,
- Competences of the personnel in both quantity and quality,
- Waste collection and transportation methods,
- Temporary waste storage areas,
- Waste collection system of recipient municipalities/recycling facilities



Table 5 presents the waste types that would be generated at coastal facilities, beaches and hotels. Please add to the table if you think there are any extra types of waste and areas.

**Table 5. Units that generate/may generate waste**

Units	Waste types that may be generated
Rooms	Paper, plastics, glass, metal waste, biodegradable waste, end-of-life electrical and electronic equipment, waste batteries, dust filters of air conditioning / ventilation etc. devices, bulky waste, construction and demolition waste, etc.
Administrative Buildings, Offices	Paper, plastics, glass, metal waste, toner-cartridge, waste batteries, end-of-life electrical and electronic equipment, such as computers, telephones, lamps, bulky waste, construction and demolition waste, etc.
Pool / Gym / Hammam / Sauna / Laundry	Waste chemicals, contaminated packaging, paper, plastics, glass, metal waste, biodegradable waste, textile waste, end-of-life electrical and electronic equipment, dust filters of air conditioners/ ventilators etc. devices, etc.
Beach	Paper, plastics, glass, metal waste, biodegradable waste, cigarette butt
Infirmary	Medical waste (such as infected, hypodermic needles), paper, plastics, glass, metal waste
IT, Maintenance-Repair Units	Toner-cartridge, waste batteries, waste accumulators, lighting equipment, dust filters of air conditioning / ventilators, oil filters of generators, contaminated packaging, paper, plastics, glass, metal waste, etc.
Food Preparation Section and Dining Halls / Restaurant / Cafeteria / Bar	Biodegradable waste, food waste, tea/coffee residues, waste vegetable oil, paper, plastics, glass, metal waste, napkins, wet wipes, etc.
Open Areas at Ports/Marinas, Ship/Boat Berthing Areas	Paper, plastics, glass, metal waste, food waste, biodegradable waste, waste oil, fisheries waste, etc.
Lavatories	Mostly napkins, hygienic materials
Maintenance & Repair Shops / Technical Service	Waste engine oil, lubrication oil, oil filters, end-of-life tires, contaminated waste, contaminated packaging, waste solvent, paper, plastics, glass, metal waste, etc.
Parks & Gardens, Golf Course, Landscape	Biodegradable waste, such as grass, leaves, tree, bush, etc.
Other units	

<sup>1</sup> It is important identify sources and causes of waste generation so that feasible options for waste prevention and reduction can be applied.

At certain intervals, the quantity of generated waste, at each unit, should be measured and recorded (Table 6) to see the general picture.

**Table 6. Generated waste by type and quantity (kg)**

	Paper	Metal	Plastics	Glass	Food Waste	Waste vegetable oil	Battery	Toner cartridge	E-waste	Medical Waste
Rooms										
Administrative Buildings, Offices										
Pool / Gym / Hammam / Sauna / Laundry										
Beach										
Infirmary										
IT, Maintenance-Repair Units										
Food Preparation Section and Dining Halls / Restaurant / Cafeteria / Bar										
Open Areas at Ports/Marinas, Ship/Boat Berthing Areas										
Lavatories										
Maintenance & Repair Shops / Technical Service										
Other units										

On the purpose of ensuring the best use of resources, to take inventory regarding the equipment already in use is also considered very beneficial and effective.

## 2.2. Waste Prevention and Reduction

Waste prevention and reduction are the most prioritized steps in the integrated waste management hierarchy. Waste prevention can be both qualitative and quantitative; for instance, preferring a product containing no or less hazardous substances and subsequently reducing its potential to pollute is a type of qualitative waste prevention method. With this approach, the hot spots where waste prevention and reduction are possible to be realized will be determined. Following examples and further preventive opportunities may be implemented. Additionally, in order to achieve success, it is encouraged to share the details regarding the implementation process with all the relevant stakeholders such as colleagues, customers, and suppliers through some advertisement channels like e-mail, and posters.

### SIX RECOMMENDATIONS FOR LESS PLASTICS



**1**  
Bring your own shopping bag.



**2**  
Procure a reusable water can.



**3**  
Use your own cup.



**4**  
Procure reusable food carrier bags if you take your lunch from home



**5**  
Stop using single-use products.



**6**  
Keep remaining food in glassware.



**Table 7. Examples of waste prevention and reduction practices**

Unit	Waste Type	Waste Prevention / Reduction Measures
Administrative Buildings, Offices 	Paper	<ul style="list-style-type: none"> <li>• Removing dustbins that are placed under desks or in the classrooms</li> <li>• Making correspondence electronically</li> <li>• Adjusting all computers, printers and photocopy machines for double-side printing</li> <li>• Using ID card printers and photocopy machines that are suitable for the shared use, which, are allowed for cancelation before transaction and automatically would cancel the work that is not printed during the working hours rather than individual printers and photocopy machines</li> <li>• Using one-side printed papers as worksheets</li> <li>• Minimizing the number of printed brochures, catalogues, etc., and ensuring access via internet if it is possible</li> </ul>
	Plastics	<ul style="list-style-type: none"> <li>• Opting for reusable products instead of single-use plastic plates, cups, forks, spoons, etc.</li> <li>• Installing hygienic water dispensers on floors rather than plastic bottled water, ensuring staff use their own cups or the cups in the kitchen</li> <li>• Reducing the use of plastic files and presentation files</li> </ul>
	Toner-cartridge	<ul style="list-style-type: none"> <li>• Using refillable cartridges</li> <li>• Taking printouts in the “draft” mode instead of high resolution</li> <li>• Adjusting printers’ features to black&amp;white mode and taking coloured printouts only when it is necessary</li> <li>• Taking printouts with economical fonts</li> <li>• Making correspondence in electronic media</li> </ul>
	Construction and demolition waste	<ul style="list-style-type: none"> <li>• Continuing to use end-of-life materials/structures</li> <li>• Giving end-of-life materials to which, are asked to take them</li> <li>• Sorting of the materials (wood, glass, frames, etc.) before demolition,</li> </ul>
	Bulky Waste (waste tables, chairs, cabinets, etc.)	<ul style="list-style-type: none"> <li>• Using such materials in repair shops for second-hand products and exchange areas</li> </ul>
IT, Maintenance-Repair Units 	Toner-cartridge, waste batteries, waste accumulators, dust filters of air conditioners/ ventilators, oil filters of generators	<ul style="list-style-type: none"> <li>• Purchasing the essential service rather than controlling the waste generated thereafter by purchasing the product using the “purchase the illumination, not the lamp” approach</li> <li>• Opting for repairable and reusable products</li> <li>• Providing periodic maintenance without any delay to extend the lifecycle of products</li> <li>• Opting for rechargeable batteries to reduce waste batteries</li> </ul>
Food Preparation Section, Kitchen	Food waste and food packaging waste	<ul style="list-style-type: none"> <li>• Purchasing fresh materials as needed from suppliers, and to the extent possible, procurement of bulk materials rather than packed ones</li> <li>• Operating with minimum inventory</li> <li>• Preparing food considering the number of people to be served</li> <li>• Complying with food storage conditions</li> <li>• Preparing menus based on the inventory checks for the best before/expiration dates of materials, and primarily making use of products with a close expiration date</li> <li>• Avoiding decoration for service (e.g., fruit decorations as part of open buffets)</li> </ul>

Dining Halls / Restaurant	Food waste	<ul style="list-style-type: none"> <li>• Asking for the preference of customers (whether they want side dishes with main dish they order)</li> <li>• Providing smaller service plates for open buffets</li> <li>• Portioning</li> <li>• If customers leave a packable food on their plates, offering them take away services by using packing materials that will protect the hygiene of food</li> <li>• Making food donations, delivering surplus food materials to those in need</li> <li>• Ensuring that food left on plates are used for the production of animal feed</li> <li>• Compost production from food waste separated properly at source</li> </ul>
Yemekhane/Restoran/ Kafeterya/Bar  	Plastics	<ul style="list-style-type: none"> <li>• Opting for reusable products rather than single-use plastic plates, cups, forks, spoons, etc.</li> <li>• Avoiding the use of composite (plastics-paper) products, such as beverage coasters, table mats</li> <li>• Using hygienic dispenser machines for drinks, such as water, soft drinks, and serving them with reusable glasses, or alternatively, choosing products included in the deposit system</li> <li>• Avoiding offering pipettes</li> <li>• Supplying and offering products like bread, cube sugar without packaging</li> <li>• Avoiding offering products such as ketchup, mayonnaise, honey, jam, butter, etc., in small-weight, singular packages</li> <li>• Offering brewed tea and coffee rather than single-use packaged tea and coffee</li> </ul>
	Glass, Metal	<ul style="list-style-type: none"> <li>• Using hygienic dispenser machines and glass cups for drinks, such as water, soft drinks, or alternatively, choosing products included in the deposit system,</li> </ul>
	Wet Wipes, Napkins	<ul style="list-style-type: none"> <li>• Offering customers washable wet towels rather than wet wipes, or if this is impossible, providing them in limited number upon request of customers</li> <li>• Avoiding presenting napkins and wet wipes on service tables to prevent excessive usage</li> </ul>
	Take-away foods waste	<ul style="list-style-type: none"> <li>• Avoiding using such products as wet wipes, toothpicks, salt, spice, napkins, single-use forks and spoons, pipettes, or providing them in limited number upon request of customers, or charging customers for such products</li> <li>• Serving customers with washable, reusable, returnable cases</li> </ul>
Rooms	Plastics	<ul style="list-style-type: none"> <li>• Opting for refillable and reusable personal cleaning products that are offered to customers, keeping such products in fixed and locked boxes</li> <li>• Offering the following materials only if requested by customers: dental care kit, comb, cotton swab, shower cap, slippers, shoe horn, shoe shiner, dry cleaning bag, sewing kit, cotton</li> <li>• Avoid serving bottled water, using hygienic dispenser machines, refillable jugs, etc., serving drinks in glass cups, or alternatively, opting for products included in the deposit system</li> </ul>
	Paper	<ul style="list-style-type: none"> <li>• Informing people through digital media (e.g., TVs in rooms, display screens in lobbies and common areas) rather than brochures, leaflets, etc.</li> <li>• Giving customers e-invoices</li> <li>• Considering reusable options instead of paper boxes used to cover room cards</li> <li>• Avoiding using paper strips that indicate cleanliness of lavatories</li> </ul>
	Construction and demolition waste	<ul style="list-style-type: none"> <li>• Continuing to use end-of-life materials/structures</li> <li>• Giving end-of-life materials to which, are asked to take them</li> <li>• Sorting of materials (wood, glass, frames, etc.) before demolition,</li> </ul>
	Bulky Waste (waste tables, chairs, cabinets, beds, etc.)	<ul style="list-style-type: none"> <li>• Using such materials in repair shops for second-hand products and exchange areas</li> </ul>
Lavatories	Napkins	<ul style="list-style-type: none"> <li>• Providing toilet papers in fixed and locked boxes to prevent excessive usage</li> <li>• Installing hand dryer devices instead of paper towels</li> </ul>

To ensure efficiency in the implementation process, all employees and guests must be informed in detail about how to reduce and make use of waste according to the sources of generation.

## 2.3. Needs Analysis

By taking each unit into consideration, all required equipment must be determined, listed, and procured before the implementation process. The required equipment for each unit, such data as dimension, volume, number of equipment, and the areas where they will be placed should be determined.

### Placement of Waste Collection Bins

Waste collection bins must be sufficient in terms of the number of people, and waste types and quantity as well as be placed at easily accessible areas. To ensure user friendly and systematic planning, needs should be analysed on a building/block basis and thereafter on a floor/corridor basis by also considering the structure of each floor/corridor, the number of people present on that floor/corridor, the length of the corridor, the walking distance for people to waste collection bins, easy access for disabled personnel. After such assessment, a pilot study may be carried out only on one or two floors to evaluate the efficiency of the planning.

Excess amount of waste collection bins should be avoided. Once generated, such waste can be taken directly to the area allocated for temporary storage, ensuring to be collected according to the waste codes.

Waste must be collected in the collection bins located in the corridors with care. There must be no dustbins “under desks” or within “chambers” in administrative and technical offices, for example. As a result, such equipment must not be included in the needs list during the needs assessment.

Collecting equipment must be procured, and be placed at appropriate intervals outside of buildings, where they will be used intensively, i.e., in the open areas of the port, coastal facility or hotel beach or on the beaches.



## Determining Collection Equipment

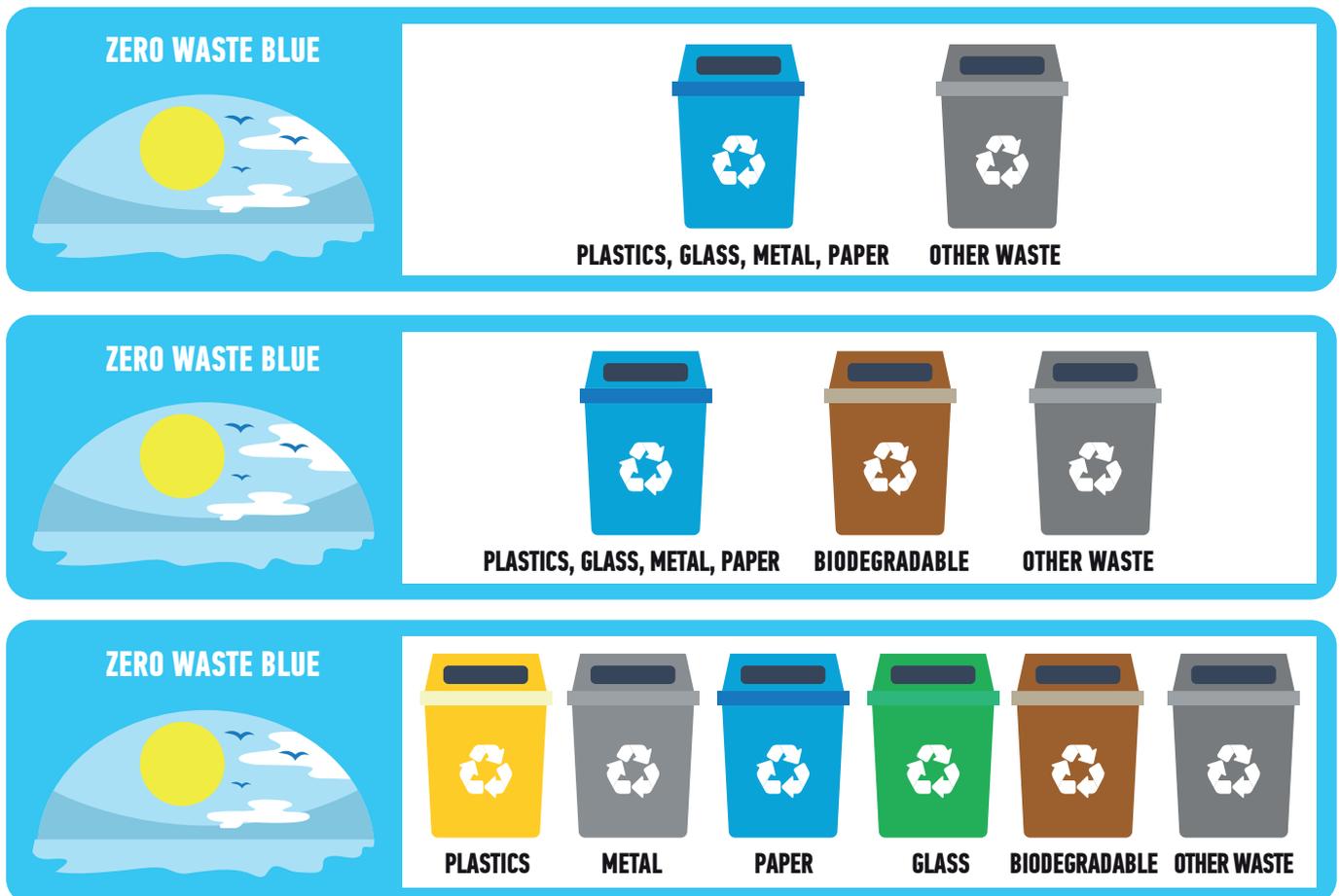
It must be ensured that recyclable waste such as paper, glass, plastics, and metal is collected in separately, that is, without mixing it with other types of waste. The needs for equipment required for recyclable waste, biodegradable waste (organic waste), and other types of waste should be assessed by taking all units into consideration. The number, size, and type of equipment based on the data obtained from the baseline analysis should be decided.

Pursuant to the legislation, there should be at least dual collection bins (for recyclable waste and other waste). Paper, glass, metal and plastics waste can be collected in a single piece of equipment, or separately by waste type. According to the collection system of a municipality, more than one type of waste than one type of waste can be collected in the same waste collection bin. Please visit <https://sifiratik.gov.tr/kutuphane/kurumsal-kimlik> to see colours and labels to be applied on waste collection bins.

One basic principle of the ZWM approach is to use existing equipment rather than purchasing new equipment. The important point regarding the collection equipment is not that it is old or used or what material it is made of or what colour it has, but that it is labelled in a colour in compliance with the ZWM system. If there is suitable equipment to be used in waste collection, it can be used after being labelled and/or coloured (any used plastic or metal barrel or container).

For such areas as tea stands/shops and dining halls, where biodegradable waste is generated, pedal and covered collection equipment can be used to collect these wastes separately. For dining halls, where waste vegetable oil is generated, clamped bins should be used for the storage of such waste, which should be delivered to waste treatment facilities or municipalities. For separate collection of cigarette butts, separate collection boxes can be used, particularly on beaches.

Tablo 8. Models for separate collection



Needs analysis should be finalized after filling in the table below regarding collection points and equipment.

**Table 9. Assessment of needs for the recycle bins and containers, identification of collection points**

Point	Collection system								
	Dual			Triple			Quadruple		
	With / without plastic bag	X litre Fixed / Wheeled	Pieces	With / without plastic bag	X litre Fixed / Wheeled	Pieces	With / without plastic bag	X litre Fixed / Wheeled	Pieces
Rooms									
Administrative Buildings, Offices									
Pool / Gym / Hammam / Sauna / Laundry									
Beach									
Infirmery									
IT, Maintenance-Repair Units									
Food Preparation Section and Dining Halls / Restaurant / Cafeteria / Bar									
Open Areas at Ports/Marinas, Ship/Boat Berthing Areas									
Lavatories									
Maintenance & Repair Shops / Technical Service									
Parks & Gardens, Golf Course, Landscape									
Other units									

The size (volume), number, and location of waste collection equipment are determined based on the type and amount of waste generated. The frequency of discharging also affects the volume to be determined.

In general, the volume of waste collection bins used indoor and outdoor areas varies from 3 to 120 litres. Waste collection bins can be covered or uncovered, with or without a pedal, and boxes over 80 litres can be produced with wheels. Waste collection bins are made of metal (stainless steel, aluminium, galvanized sheet), plastic, or wood. When opting for the material, it is important to consider the sustainability of equipment in terms of economic aspects. Existing equipment can also be converted for this purpose. Waste collection bins can be placed at appropriate points in corridors/ floors, near public gathering areas and elevators.



Placement of waste collection bins on each floor is related to needs. Common equipment can be used for a few floors or corridors depending on the amount of waste generated. Likewise, capacities and numbers of transport containers are also directly related to the amount of waste generated. Using resources at a minimum level should be considered as the core of ZWM.

There may be a need to procure containers for transporting waste collected from waste collection bins to the Temporary Waste Storage Area. In general, containers with a volume of 120 – 1,100 lt are used in such cases. Such equipment can be produced pedal, covered and wheeled.



### Establishing Temporary Waste Storage Area

A Temporary Waste Storage Area is used to store the waste collected until the delivery to be done to the licenced waste treatment facilities. A temporary waste storage area should be established by taking into consideration the frequency of collection / transportation in a district, and the amount of waste generated.

Temporary waste storage areas must be established in accordance with the legislation after determining an appropriate place. If there is an existing place that complies with the legislation in technical terms, it would be sufficient to arrange such place without any need to establish a new Temporary Waste Storage Area. Types and amount of waste to be collected must be taken into consideration when establishing/arranging this area. Take the pedestrian traffic and vehicular traffic into account when planning the transportation of waste to be collected to the temporary waste storage area.

The size of the area must be determined based on the number of chambers in the area and the amount of waste to be stored, considering the model to be implemented for the ZWM system. Dimensions of the chambers must be determined based on the volume and number of containers to be placed, and the necessary room for movement.

The principles regarding the temporary storage of waste are stipulated in Article 13 of the Turkish Regulation on Waste Management, and the technical specifications that must be fulfilled by Temporary Waste Storage Areas for hazardous and non-hazardous waste are published on <https://cygm.csb.gov.tr/atik-yonetimi-i-83468>.

*NOTE: In the case that the amount of waste to be stored is less or if there is a problem to find an appropriate area, storage may be realized in appropriate formats in more restricted areas. For example, space-saving solutions can be developed through the procurement of containers to be used for storage in a way that such containers will have compartments in which several types of waste can be stored.*



Temporary waste storage areas must have a capacity to store various types of waste given in Table 5, such as packaging that contains hazardous material, cleaning chemicals, etc., toner cartridges, waste electrical and electronic equipment, drug waste, etc.

**Tablo 5. Geçici depolama alanı ihtiyacının tespiti**

Equipment / Structure	Placement / Installation Location	Size	Chamber	Need

Medical waste should be collected with due regard to the issues specified in the Turkish Regulation on Medical Waste Control published in the Official Gazette of 25.12.2017 issue 29959 and be transported separately from other waste by personnel assigned with the management of medical waste.

## MANAGEMENT OF MARPOL WASTE ORIGINATING FROM SHIPS

Arrangements in this context are regulated, at international level, in the framework of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), to which Türkiye became a state party in 1990. In line with the obligations arising from this Convention and the national requirements of the country necessary regulations were issued to establish the current system for the management of waste from ships. As of 2022, waste collection services in are provided by 325 coastal waste receiving facilities and 53 waste collection ships in Türkiye.

The “Maritime Waste Application (DAU)” is used to monitor online, and ensure effective control on the whole process starting from receiving the waste from ships to its disposal.

Wastes from ships are collected separately according to its categories, stored in separate tanks at waste receiving facilities onshore and are disposed by facilities within the context of the current legislation.



### 3. TRAINING/PUBLIC AWARENESS-RAISING ACTIVITIES AND TAKING ACTION

Before the implementation process, it is important to organize training and awareness-raising activities aimed at target audience such as related staff and employees in charge, encouraging them to participate in the process. . Training and awareness-raising activities should be prioritized for the purpose of increasing awareness regarding waste prevention, reduction, reuse, separation at source, and recycle. Therefore, structure of such activities in terms of target audience, participants (experts, speakers, etc.), and topics to be emphasized should be planned. At educational institutions, exhibitions, competitions, and festivals with a zero waste-theme in addition to activities organized by student clubs can be beneficial in raising awareness.

Particularly, explaining the waste prevention practices to the target audience and informing them periodically in this regard are of great importance. For example, ending the use of pet bottles may get a reaction from people at first, but informing them about the amount of plastic waste prevented through this practice will have a positive effect on their recognition of the effectiveness of the practice.

The studies carried out as part of the Zero Waste Project, that was initiated for the purposes of preventing waste generation, reducing waste, and managing the waste by collecting it separately at source, and the charge brought for the use of plastic bags are of great importance in terms of preventing marine litter. Zero Waste Blue was initiated to systematically implement activities aimed at reducing marine litter, ensure public recognition of such activities, and raise awareness and social sensitivity in the community.

Zero Waste Blue covers the studies carried out for eliminating environmental pollution that directly threatens our sea and water assets, and awareness-raising and training activities carried out on marine pollution. Considering that approximately 80 percent of marine pollution originates from land, the Zero Waste Blue system should be implemented elaborately by operators of coastal and beach facilities, ports and marinas, that are directly related to our sea and water assets.



Targeted audience may include beach and facility operators, all employees, including particularly cleaning staff, maintenance-repair staff, staff in charge of temporary waste storage areas, etc., as well as operators and users of coasts, beaches and marinas. For administrative personnel, cleaning staff, and all the other employees to receive the necessary training through the instrument of visuals and posters, and various kinds of incentives is of vital importance in the realization of ZWM system.

The brochures and posters\* to be prepared and the activities to be carried out will allow implementers to ensure that the system is better understood and adopted. Witnessing the environmental, economic and social earnings of the system is a factor that will support participation. For example, once the waste is collected through coast cleaning activities and separated by type, you can announce how much waste is prevented from running into the seas. On average, one battery contains 0.05 g mercury, and 1 g of mercury poisons 10 million litres of water and 2 tonnes of fish. 1 litre waste oil pollutes 1 million litres of water. Accordingly, how much water and fish are rescued from such pollution can be estimated based on the number of batteries and the amount of oil that are collected and transferred to the recycling system. Sea turtles perceive plastic bags as marine species and eat them. It can be assumed that by reducing the use of plastic bags, sea turtles are rescued from such a danger. You can access the waste meter at <https://sifiratik.gov.tr/sifir-atik/atik-sayaci> and use it to calculate the savings you achieved after transition to the Zero Waste Management system.

Regarding the training activities at facilities which are directly related to our sea and water assets, environmental training courses covering such topics as Marine Ecosystem, Marine Pollution, Marine Litter, Zero Waste and Zero Waste Blue are delivered by trainers to be assigned by the Ministry. For raising awareness of the public, it is important to organize periodic cleaning events at coasts and beaches within the facility as part of the Zero Waste Blue initiative and to encourage people who receive services from the facility to participate in such events. Training events must be repeated and not be for one time only.



\* <https://sifiratik.gov.tr/kutuphane/kurumsal-kiml>

## 4. MONITORING, RECORD-KEEPING AND IMPROVEMENT

The working team monitors the effectiveness of the practice at certain intervals for assessment purposes and determines problematic points, deficiencies or the points to be improved to take measures accordingly.

Providing access to data obtained from the implementation process will ensure a more efficient participation. Those in charge of the ZWM system enter in the Ministry's Online System the information on equipment regarding zero waste management system, types and amounts of waste collected, delivery information, and documents for waste delivered.

Monthly data relating to the waste collected under the Zero Waste Information System is notified over the Zero Waste Information System by the 15th of the following month. Efforts must be completed considering the deadlines for transition to the Zero Waste Management System, and those concerned must apply through the Zero Waste Information system to receive a zero waste certificate. Zero Waste Certificates are issued by the Provincial Directorate of Environment, Urbanization and Climate Change of the relevant province.

Through the high-quality documentation process, zero waste management system sustainability reports are prepared to include the activities carried out within the scope of the zero waste management system; practices; innovations brought by the system; achievements; and future objectives.





**REPUBLIC OF TÜRKİYE**  
**MINISTRY OF ENVIRONMENT,**  
**URBANIZATION AND CLIMATE CHANGE**  
GENERAL DIRECTORATE OF ENVIRONMENTAL MANAGEMENT



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## ZERO WASTE MANAGEMENT SYSTEM IMPLEMENTATION GUIDELINE

*This Guideline is prepared by the Ministry of Environment, Urbanization and Climate Change with contribution from UNDP and relevant institutions and organizations, Local Authorities and NGOs based on the consultation and design stages completed as part of the Project for Recovery of Solid Waste for Economy, Revision of National Waste Management and Action Plan (2016-2023) and Preparation of National Waste Management Plan (2023-2035).*

