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Technical Assistance for Assessment of Türkiye's Potential on Transition to Circular Economy

EuropeAid/140562/IH/SER/TR

Activity 3.2.4. Training on Integrated Waste Management in Circular Economy

Zero Waste Management System, Civic Amenity Sites and Separate Collection at Source Practices in Türkiye

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October 10-11, Ankara

Separate Collection System

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CONTENT...

- System Installation in Municipalities
- Separate Collection Points
- Separate Collection Models
- Collection Optimizaston
- Examples of Good Practice

Importance of Cities in Zero Waste Journey

1
Direct interaction with citizens and businesses

2
Carrying out urban planning and infrastructure management activities (environmental pollution, waste collection, landfilling)

3
Having legal responsibility, ensuring emergency management

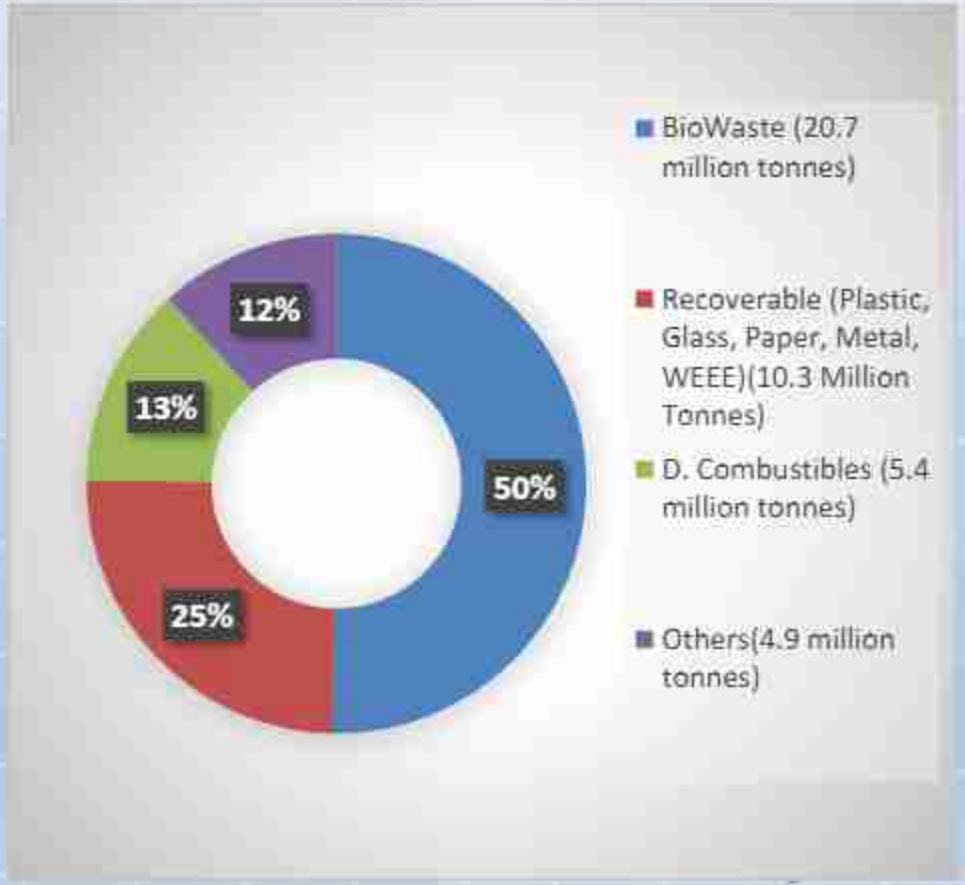
4
Providing social services, organising cultural and social activities

5
Supporting local economic development, developing projects

Waste Characterization (2023)

In Our Country **41.3 Million** tonnes of waste are generated.

About 75% of the generated waste is recoverable waste.



Zero Waste

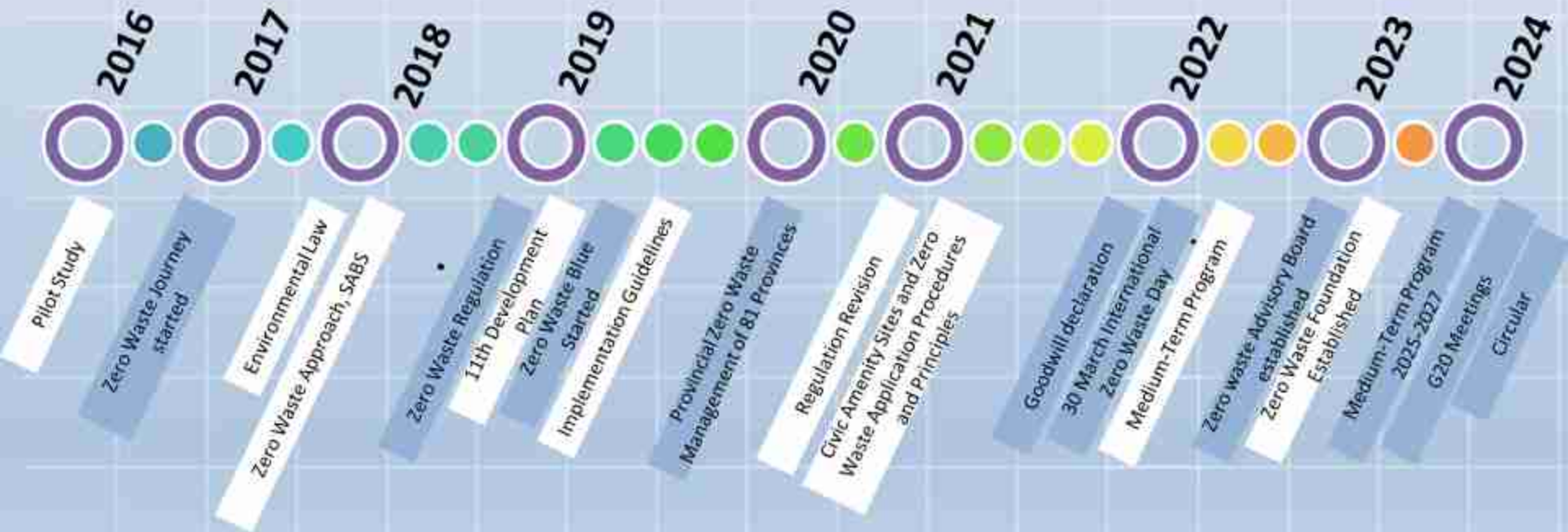
It is a resource and waste management approach based on circularity.

It encourages sustainable production and consumption habits and supports the efficient use of resources.

Zero waste advocates avoiding waste and preventing, reducing, reusing and recycling waste.

It can thus help to achieve positive socio-economic outcomes, including the development of social solidarity.

Zero Waste Chronology (2017-2024)



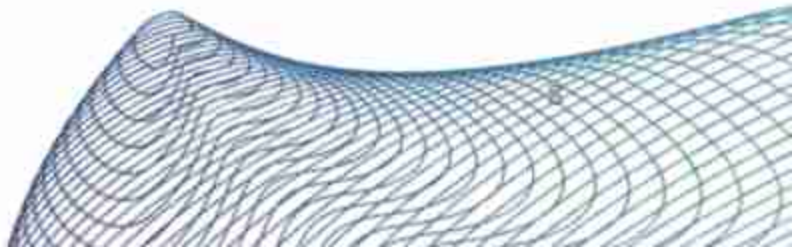
Circular-April 4, 2024

From Buildings and Settlements and Local Administrations;

- Who does not establish a zero waste management system
- Who did install but did not receive the zero waste certificate
- Those who do not effectively implement the zero waste management system despite having a zero waste certificate

- Deficiencies related to Zero Waste system will be eliminated
- Necessary inspection and follow-up will be carried out meticulously

Administrative sanctions will be imposed on those who refrain from fulfilling their obligations



Achievements (2017-2023)

Achievements (2017-2023)

Transition to Zero Waste Managem

Law Offices, Consulting, Association

Airports, ports

Cargo Companies

Train and Bus Stations

Accommodation Facilities

Local Administrations

Industrial Facilities

Cafes and Restaurants

Housing complexes

Health Institutions

Fuel Stations

Shopping Centres

Chain Supermarkets

Educational Institutions

Public Institutions

more than 50 employees

Zero Waste Strategy in Municipalit

Strategic Plan and Budget

Inclusion of zero waste in their strategic plans and budgets

Planning

Revision of provincial plans
Determination of actions related to the plan
Determination of the zero waste vision

Commitment

Goals should be set at the city scale
A commitment should be made regarding the indicators

Social Responsibility

Placing it on the City Council Agenda
Developing social responsibility projects on zero waste in city councils

Cooperation

Sharing of experiences
Cooperation with NGOs
Cooperation with universities
Cooperation with local businesses

Indicators and Goals

Recycling rate,
Percentage of waste reduction,
Waste separation rate, amount of waste collected, amount of waste per capita
Level of consciousness,
Social participation rate

1 Dual System

Door to Door
Alternating Collection
Collection by Container

2 Civic Amenity Site

Centers where citizens bring their waste

3 Mobile Waste Reception Centre

Mobile waste accumulation point.

Zero Waste System in Municipalities

Good Practice in Municipalities

1 Zero Waste Points

Fixed structures
Collection of citizens' waste with incentive system

2 Zero Waste Collection Vehicles

Collection of waste in neighborhoods with incentive system

3 Zero Waste Supermarket

Waste collection with incentive system

Separate Collection System?

Separate Accumulation

***Environmental Law**

It is essential to prevent or minimise the generation of wastes and their damages, to recover wastes and to collect recoverable wastes separately at source.

***Waste Management Regulation:**

It is essential that different types of wastes are classified and collected separately at the source/place of generation without mixing with other wastes.

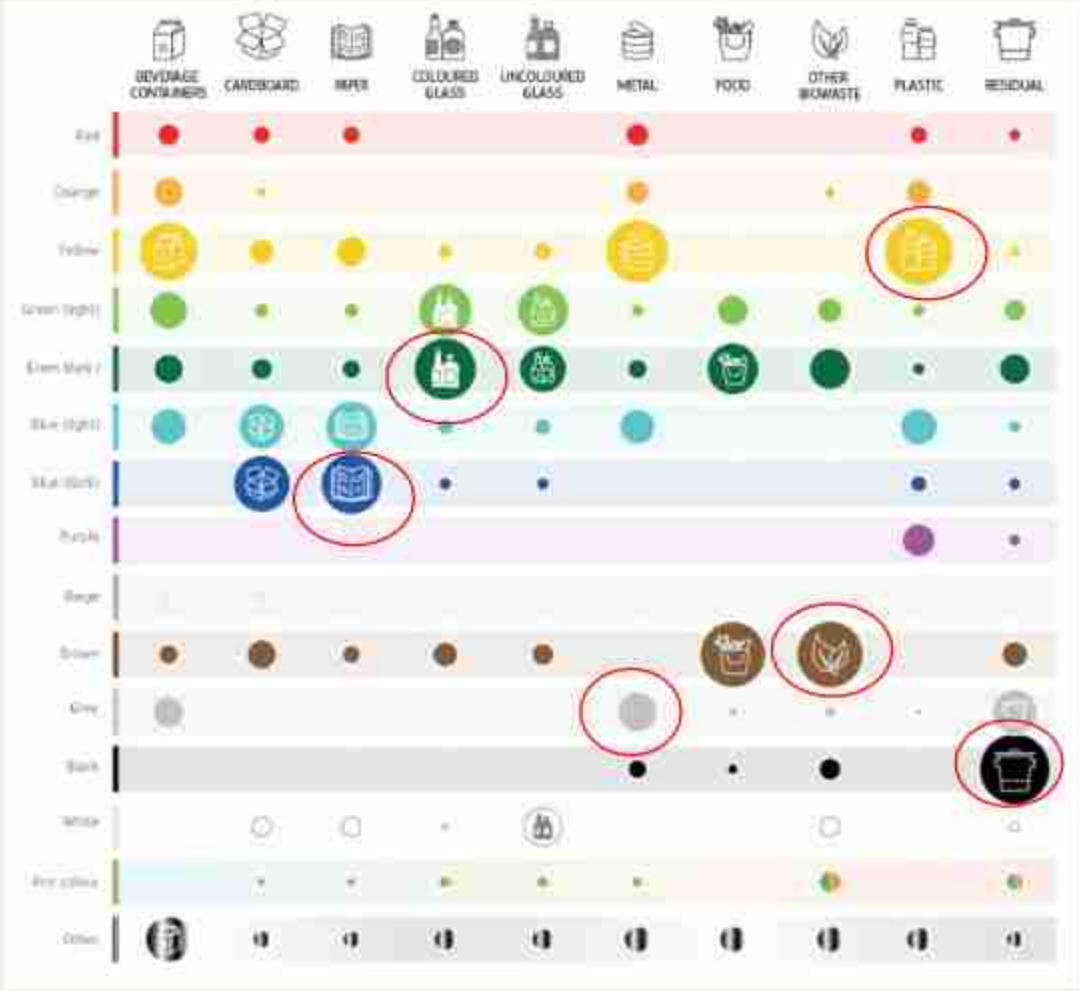
***Zero Waste Management Regulation:**

At least dual accumulation of wastes according to their types

Colour Scales

Throughout the European Union;

Colours of the accumulation equipment used for different types of waste materials



https://policy-lab.ec.europa.eu/news/harmonising-waste-sorting-labels-across-eu-2023-05-02_en

Colour Scales

Recoverable waste

Plastic, paper, glass, metal

Other Wastes

Paper

Plastic

Metal

Glass

Biodegradable

Textile

Electronic waste

Pharmaceuticals

Waste Vegetable Oil

Composite

Battery

Toner Cartridge

Paint can

Waste oil

Chemical packaging

Voluminous waste

Department of Zero Waste Practices Training
and Awareness Branch Manager

Separate Accumulation

Dual system?

New Buildings

In order for new buildings to obtain occupancy permits, during the building licence phase; it is ensured that the parcel boundaries are made available for the **determination of dual accumulation equipment** for the collection of other wastes and recyclable wastes and for the installation before the construction is completed.

Reference: Principles and Procedures on the Establishment and Operation of Waste Collection Centres and Zero Waste Practices

The System in Residences

Housing complexes over 300 dwellings are obliged to obtain a "Zero Waste Certificate".

Other housing complexes and apartment and single-family houses must have one container or similar collection equipment for recyclable paper, glass, metal, plastic wastes.

Biodegradable wastes from tea shops, cafeterias, food preparation or catering and similar places

Biodegradable wastes generated in wholesale markets and bazaars

Biodegradable wastes at the Qualified Document stage

Triple System?

Accumulation by Type of Waste?

Equipment Specific to the Type of Waste

Glass

PET Bottle

Textile

Equipment Specific to the Type of Waste

Waste Pharmaceutical

Waste Vegetable Oil

Electronic

Equipment Specific to the Type of Waste

Packaging for agricultural control

Packaging Wastes

Visual Pollution

Equipment should be designed to increase awareness

Measures are taken to prevent visual pollution caused by equipment designs.

Placed at a single collection point instead of in separate areas

Wind and weather conditions must be taken into account

Mobile WRC may be preferred

Engineer
Practices Trai
Branch Manager

Wastes outside the Dual System?

Paints, chemicals, fluorescents, batteries, waste electrical and electronic equipment, waste pharmaceuticals, bulky wastes, used cooking oils, construction demolition wastes, etc. Collected separately outside the dual system and taken to waste collection centres/collection points.

Separate Collection Points

Separate Accumulation

Considerations at Separate Collection Points

Accessibility

Easily accessible, densely populated regions, centres, easy to use

Infrastructure

Collection points, bins, containers, efficient collection, tracking system, mobile applications, smart containers, collection optimisation, incentive mechanism

Visibility

They should be clear and easily recognisable, in harmony with the environment, with containers marked with waste-specific signs,

Education and Information

Signposts, information boards, training programmes, awareness materials

Safety and Hygiene

Theft, environmental health, hygiene, vandalism, regular maintenance and cleaning required

Capacity and Monitoring

Sufficient volume of equipment, frequency of collection, type and amount of waste generated in the region should be determined, effective monitoring system required

Separate Collection Points

- Civic Amenity Site
- Zero Waste Point
- Recyclable Waste Transfer Centre
- Mobile Waste Reception Centre
- Sale Point
- Mobile Collection Vehicles

Civic Amenity Site

Waste collection centre(s) shall be established by local administrations.
Repair, maintenance, renovation, second-hand product display area can be established

Türkiye 64 types of waste fractions


Paper


Metal


Textile


Biodegradable


Wood


Hazardous Waste


Plastic


Waste Vegetable


Mixed Packaging


Electronic waste


Waste Battery


Construction demolition


Fluorescent lamp


Voluminous waste


Waste Pharmaceuticals


EoL tyres

Melikgazi Municipality

1 TAT (Non-hazardous Waste Collection and Sorting) Facility

An integrated facility

2 Civic Amenity Site

Citizens' waste is being brought in

3 Zero Waste Training

Training center

Mock-up of logos

Zeytinburnu Municipality

1 Civic Amenity Site

Citizens bring their waste
Road coloured according to waste type
.

2 Good Practices

Compost
Rain harvest
Rooftop agriculture

3 Awareness Raising Activities

Bug hotel
Utilisation of defective mosaics
School Education

Pendik Municipality

1 TAT (Non-hazardous Waste Collection and Sorting) Facility

An integrated facility

2 Civic Amenity Site

Citizens' waste is being brought in

3 Zero Waste Training

Training center

Kızılcahamam Municipality

1 Zero Waste Garden

Waste Delivery,
Cafe
Exchange point

2 Deposit Return Points

Placed at different points in the city

3 Civic Amenity Site

Waste delivery
TAT (Non-hazardous Waste Collection and Sorting) facility
Compost unit

Not Good Examples

1 Junkyard

No security measures
No signs

2 Rubbish

The city's garbage waste is being stored

3 Out of Town

A remote area

Mobile Waste Reception Centre

Placed for the accumulation of different types of waste
Established by municipalities and shopping centres

Zero Waste Point

Used for incentive purposes.
A point system is applied in return for the waste delivered.
According to the score, products such as basketballs, headphones, pens, dishwashing detergents are distributed

Zero Waste Mobile Vehicle

Used for incentive purposes.
It is located in certain neighbourhoods on certain days and times.
Score card system is applied.

Zero Waste Grocery Store, Bank

Used for incentive purposes. Purchases are made in return for the waste delivered.

Zero Waste Bus

Used both for collecting recyclable waste from neighbourhoods and for training students.
An incentive system is applied to those who bring their waste.

Collection Point

Chain Market, places with more than 400m2 sales area
paper, glass, metal, plastic wastes of non-hazardous nature brought by consumers and batteries, small household electrical appliances or textile wastes in case of sale

Waste Pharmaceutical Collection Point

It is collected in places where medicines are sold and in places specified in the provincial zero waste management plan.

Recyclable Waste Transfer Centre

Established by local administrations centres where non-hazardous recyclable paper/cardboard, glass, metal, plastic, composite, textile wastes are collected before being delivered to waste processing facilities

Separate Collection Points

Separate Accumulation

Separate Collection Models

***Municipal Law No. 5393:**

Municipalities

To carry out and have carried out all services related to the collection, transport, sorting, recovery, disposal and landfilling of solid wastes"

*** Metropolitan Municipality Law No. 5216**

Metropolitan District Municipalities *«collecting solid wastes and transporting them to the transfer station»*

Metropolitan Municipalities *«To perform services related to the recycling, landfilling and disposal of solid wastes and excavations,*

***2872 Environmental Law**

«Except for domestic wastes, institutions or organisations carrying out waste transport and/or collection works must obtain a licence from the Ministry. Institutions and organisations carrying out the transport and collection of domestic waste shall be registered by the Ministry.»

***Principles and Procedures on the Establishment and Operation of Waste Collection Centres and Zero Waste Practices**

Separate Collection Models in Residential Buildings

Door to Door

Bag collection from the point where recyclable waste is generated,

Containerised Collection

Collection of recyclable waste from dual placed containers in public areas,

Alternating Collection

Collection of wastes on different days with the same container and vehicle

Hybrid Model

Implementation of more than one model according to the structure of the neighbourhoods

System Optimization in Municipalities

COLLECTION MODEL

- Is it suitable for the area?
- Dual system (dual door-to-door, Collection Day Model and Proportional Distribution)
- The necessity to change the model,

EQUIPMENT CAPACITY

- Number of equipment, lack of capacity or excess,
- Design problems
- Periodic maintenance and repair of equipment.

EQUIPMENT LOCATION ANALYSIS

- Need for equipment relocation
- Citizen's equipment demands, needs analysis. Have green areas been taken into consideration?
- Have all regions been reached

System Optimization in Municipalities

COLLECTION OPTIMISATION

- Wastes should be collected separately without mixing
- Stability should be ensured in the collection
- Collection days must be observed
- Route optimization should be ensured
- Attention should be paid to the waste occupancy
- Logistical support should be provided for large volumes

MONITORING

- Citizen behaviour; is collection and monitoring done?
- Has the monitoring period been set up?
- Has the tracking system, mobile applications, smart containers, collection optimization been provided?
- Has the collection efficiency been increased?
- Have the goals been achieved?
- Have the indicators been monitored?

The collection system is announced to the citizen

- Types of waste to be deposited separately,
- Accumulation equipment and places where waste will be deposited,
- Collection method and days/hours according to waste types,
- Collection routes,
- Civic amenity sites and their locations
- Mobile waste reception center program
- Incentive system
- Tracking and monitoring system

- Within the scope of this Regulation, those who have established a zero waste management system and **obtained a certificate** shall give their wastes, which they accumulate separately at the source according to their types, **to the collection system of local administrations that have received the zero waste certificate** or **to waste processing facilities** that have obtained a Temporary Activity Certificate / Environmental Licence from the Ministry for recovery.

Delivery to the Waste Processing Plant

Local Administrations,

- In order to prepare for the recovery of **paper/cardboard, glass, metal and plastic** wastes, which are mixed in the blue accumulation equipment and collected in this way, facilities of the type that can serve the population are worked with.

Type 1 Collection and Sorting Plant

- Serves a population of 400,000 and over

Type 2 Collection and Sorting Plant

- Serves a population of 100,000-400,000

Type 3 Collection and Sorting Plant

- Serves up to 100,000 inhabitants.

Separate Accumulation

Separate Collection Points

Biodegradable Waste Management

Separate Collection Models

Food Rescue

*Food Banking

*Delivery of surplus products to those in need

Bringing rescued food together with those in need

Food Rescue

1 Prevention

Rescue of what can be used
Volunteer support
Food Banking
From Soil to Soil

2 Separate Accumulation

Separate collection of biodegradable wastes without mixing with other wastes

3 Zero Waste Supermarket

Waste collection with incentive system

Management of Public Market and Market Place Wastes

Compost from Biodegradable Waste

Shredding of pruning waste

Laying Out

Mixing

Irrigation

Screening

Improving Zero Waste

- Separate accumulation efficiency
- What are the drawbacks
- Public participation
- What is the recovery rate
- Needs analysis

- Inventory development
- The amount of waste collected
- Performance enhancing activities
- Unreachable points
- Characterization circular
- Characterisation
- Comparison of before and after characterisation

Dissemination of Zero Waste in Municipalities

INFRASTRUCTURE

All municipalities must complete the system installation Collection points, bins, containers

ESTABLISHMENT OF INCENTIVE MECHANISM

Implementation of the support mechanism for citizens and businesses

EDUCATION AND AWARENESS

Providing trainings for the target groups and disseminating awareness-raising activities

MONITORING

Tracking system, mobile applications, smart containers, collection optimization

Thank You

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Thanks for your attention.

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