



Co-funded by
the European Union

„Holistic approach to waste management in the transition to circular economy “

LIFE22-GIE-BG-LIFE HA2WASTE

Grant Agreement № 101113721 — LIFE22-GIE-BG-LIFE HA2WASTE

D2.5.

REPORT ON ANALYSIS OF CURRENT SITUATION

March 2024



PROJECT SUMMARY SHEET	
Programme	LIFE
Contract N.	101113721
Project Title	Holistic approach to waste management in the transition to circular economy
Acronym	LIFE HA2WASTE
Starting date	1 July 2023
Number of months	36
Coordinator	Municipality Pomorie, Bulgaria
Website	www.waste.pomorie.bg
Deliverable №	2.5
Deliverable name	Report on analysis of current situation
Dissemination level	Public
Due date	31 March 2024

Disclaimer

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

List of abbreviations

CRAS	General Directorate “Civil Registration and Administrative Services”
HWT	Municipal waste tax
LTFA	Local Taxes and Fees Act
ME	Municipal Enterprise
NSI	National Statistical Institute
RIEW	Regional Inspectorate of Environment and Waters
USTI	Unified system for touristic information
WEEE	Waste Electric and Electronic Equipment
WMA	Waste Management Act
WMA	Waste Management Act

Table of Contents

INTRODUCTION.....	6
1 GENERAL CHARACTERISTICS	8
2 GENERATORS OF MUNICIPAL WASTE	10
3 COLLECTION AND TRANSPORTATION OF MUNICIPAL WASTE	14
3.1 Mixed municipal waste	14
3.2 Separate collection of municipal waste	16
4 QUANTITIES OF MUNICIPAL WASTE.....	22
4.1 Mixed municipal waste	22
4.2 Packaging waste.....	25
4.3 Other municipal waste streams	27
4.4 Total generated municipal waste.....	27
4.5 Amounts of waste disposed of in landfill.....	28
5 FINANCIAL FLOWS FOR WASTE MANAGEMENT	29
5.1 Expenditures for municipal waste management	29
5.2 Income and funding sources	30
6 INSTITUTIONAL CAPACITY	31
6.1 Allocation of functions	31
6.2 Human resources.....	35
7 CONCLUSIONS AND RECOMMENDATIONS	35

List of tables

Table 1. Categorized accommodations places in the city of Pomorie (number)	11
Table 2. Overnight stays at accommodations (number).....	12
Table 3. Persons staying overnight at accommodations places (number).....	12
Table 4. Containers for collection of mixed waste.....	14
Table 5. Waste transportation means	14

Table 6. SCHEME of location of the containers for separate collection of packaging waste in the city of Pomorie.....	16
Table 7. Schedule for collection of packaging waste	18
Table 8. Other types of separately collected waste (tons).....	27
Table 8. Total generated municipal waste (tons)	27
Table 9. Total amount of waste disposal in landfill – municipality Pomorie (tons)	28
Table 10. Waste management costs (BGN)	29

List of Figures

Figure 1. Population of municipality Pomorie (number).....	9
Figure 2. Share of households by number of members	10
Figure 3. Share of households by housing type	11
Figure 4. Number of tourists in the city of Pomorie	13
Figure 5. Mixed municipal waste collected in Pomorie municipality (tons)	22
Figure 6. Mixed municipal waste collected in the city Pomorie (tons).....	22
Figure 7. Collected mixed municipal waste in the city of Pomorie by months (tons).....	23
Figure 8. Morphological composition of mixed municipal waste	24
Figure 9. Packaging waste (tons)	25
Figure 10. Packaging waste by months (tons)	25
Figure 11. Share of packaging waste for recycling and for disposal.....	26
Figure 12. Recycled packaging waste by type	26

Introduction

Project "Holistic approach to waste management in the transition to circular economy" (LIFE HA2WASTE) is a three-year project financed by LIFE Programme Environment (Nature & Circular Economy) of the EC and implemented on the territory of the town of Pomorie, Bulgaria.

The overall goal of the project is to develop, implement and promote a country-innovative holistic approach to waste management in municipality Pomorie to achieve the objectives of EC policy and legislation on circular economy and waste through the application of good European practices, particularly the practice of the city of Parma, Italy.

The project includes implementation of 5 work packages:

WP1. Project management and coordination

WP2. Preparatory actions

WP3. Introduction of an innovative system for transition to circular waste management

WP4. Awareness raising and participation of local stakeholders

WP5. Sustainability, replication and use of project results

Project partners include:

<i>Partner</i>	<i>Short name</i>	<i>Country</i>	<i>Role</i>
Municipality Pomorie	MunPOM	Bulgaria	coordinator
Club Economika 2000	CE2000	Bulgaria	beneficiary
Theoremus AD	Theoremus	Bulgaria	beneficiary
Ecobulpack Bulgaria AD	Ecobulpack	Bulgaria	beneficiary
Zero Waste Italy	ZWItaly	Italy	beneficiary

The current document represents **D2.5. Report on Analysis of Current Situation**, elaborated within the framework of *WP2. Preparatory actions, Task 2.3. Analysis of the current situation*.

The objective of D2.5. is to determine the present state of waste management as the basis (the starting point) for the elaboration of the design of the new scheme for door-to-door waste collection and for the subsequent change to the method for calculation of the municipal waste fee in accordance with the "polluter pays" principle (PAYT - pay as you throw). The conclusions from the current analysis will provide useful quantitative and qualitative information, which will allow for informed decision-making during the implementation of *Task 2.4. Design of a new waste management system* and *Task 3.1. Development, testing and integration of an ITC platform for integrated waste management*.

The current report presents the results from the conducted analysis of the state of those aspects of municipal waste management on the territory of the city of Pomorie, which relate to the introduction of the innovative waste management system by Pomorie municipality, including:

- general characteristics of the city of Pomorie with a focus on its specificity as a popular seaside and balneological resort;
- schemes and infrastructure for waste collection;
- waste quantities;
- financial flows for waste management;
- institutional capacity of Pomorie municipality.

The present document is elaborated based on data and documents of Pomorie municipality, reports of the organizations and companies, with which the municipality has signed contracts for the performance waste-related activities, NSI, RIEW Burgas and other institutions. Results from a sociological survey among households in the city of Pomorie, carried out in December 2023 within the project HA2WASTE, have also been used.

1 General Characteristics

Geographical Characteristics

Pomorie municipality is located in the Southeastern part of Bulgaria; it overlooks the Black Sea and has a generally favorable geographic location regarding the international infrastructural corridors. According to the country's administrative division and the general classification for statistical purposes of NUTS territorial units and the Regional Development Act of the Republic of Bulgaria., the municipality falls within the Southeast planning region (NUTS2) and within the administrative boundaries of Burgas district (NUTS3).

With a total area of 413.189 km² the municipality ranks 10th among the 13 municipalities in Burgas district and comprises 5.33% of the district's territory. The municipality's borders are as follows: to the west it borders with the municipalities Burgas, Aytos and Ruen; to the north – with Dolni Chiflik municipality in Varna districts; to the east – with Nessebur municipality and to the southeast – with Chernomorec municipality.

Pomorie municipality encompasses a total of 17 settlements, three of which are cities: Pomorie, Kableskovo and Aheloy. The other settlements are the villages Alexandrovo, Bata, Belodol, Gaberov, Goritsa, Gulubets, Dunik, Kamenar (now a residential district of Pomorie), Kozichino, Kosovets, Luka, Medovo, Poroy and Stratsin.

The **city of Pomorie** is the administrative centre of Pomorie municipality and also has direct access to the Black Sea. The city covers an area of 49.879 km² over the narrow rocky peninsula of the same name, which extends 3.5 km into the Black Sea, on the northwest coast of the Burgas Bay. To the south, east and northeast, the city is surrounded by the sea and to the north – by Pomoriysko lake, which is a protected locality. Pomoriysko lake is a site of commercial importance – healing mud is being extracted in its southern part, while northern part is used for salt extraction (salt mining). The distance from the city of Pomorie to the district centre – the city of Burgas, is 20 km, while to the distance of the Sunny Beach resort complex is 18 km.

The climate conditions in the city of Pomorie are extremely favourable – prolonged sunshine (up to 2360 hours per year), while the average July air and water temperature is 23.6°C. Due to the slow cooling of the sea water, autumn is warm and long. The average autumn temperature is 20.5°C. Snowfall is minimal.

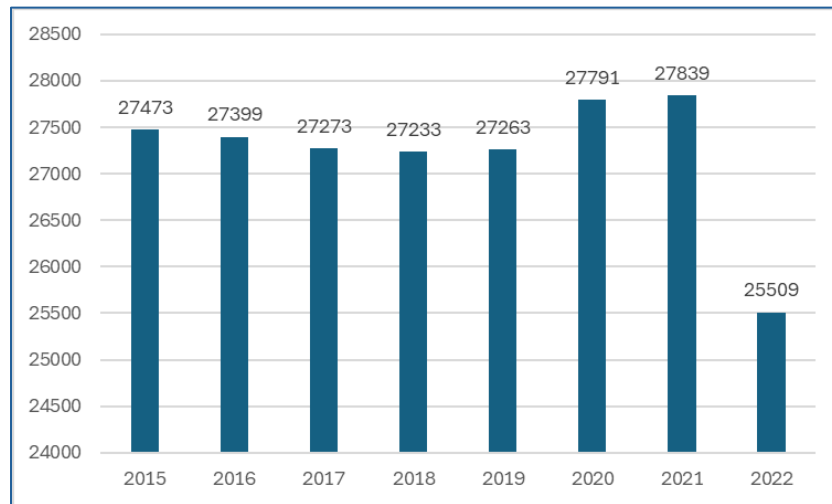
Tourism is a structure-defining sector of the local economy.

The main line of activity within the structure of local processing industry is the "Production of food products, beverages and tobacco products". Several small winemakers operate in the city of Pomorie, while the largest and most famous company is "Chernomrsko Zlato" AD, Pomorie.

Population

The population in municipality Pomorie follows the general national trend of decrease and deteriorating age structure. According to NSI data, the population of Pomorie municipality as of 31.12.2022 is 25 509 people, which is 8.4% less compared to the previous two years, and the decrease for the municipality is higher than the average 5 %for the country.

Figure 1. Population of municipality Pomorie (number)



Source: National Statistical Institute

The age structure - 16% below working age, 58% in working age and 26% above working age - is similar to that at the national level. The coefficient of natural increase of the population in the municipality and, accordingly, in the town of Pomorie is -9.4 ‰.

According to data from CRAS, as of 31.12.2023 the number of persons with an address registration in the municipality and in the city of Pomorie are as follows:

	<i>Permanent address</i>	<i>Current address</i>
Pomorie municipality	29 285 persons	28 622 persons
City of Pomorie	15 135 persons	14 841 persons

Source: <https://www.grao.bg/tna/tadr-2023.txt>

2 Generators of municipal waste

The generators of waste in the city of Pomorie are the households, the local business and the tourists.

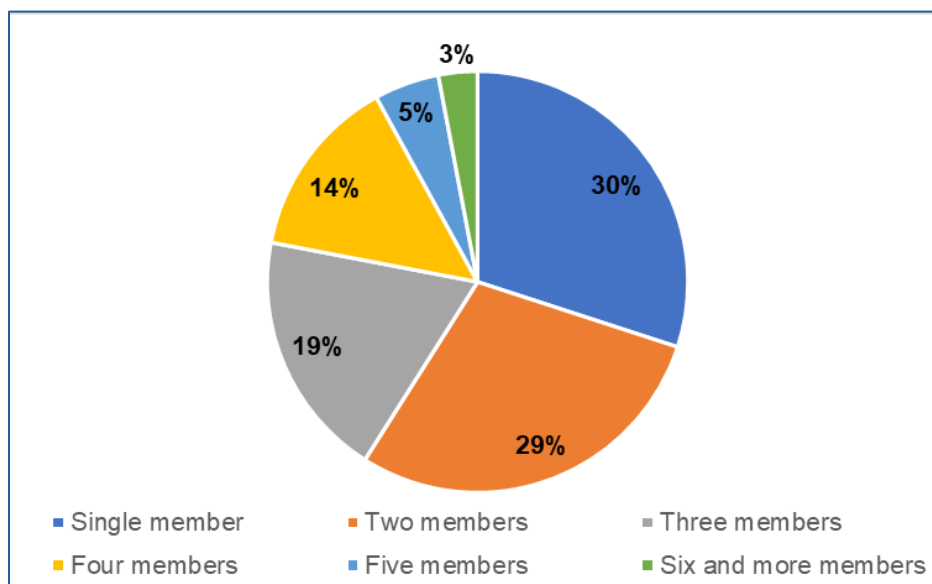
Households

The households are the main generators of municipal waste.

According to NSI data from 2021 census, 5327 households reside in the city of Pomorie.

Within the framework of project HA2WASTE, a sociological study was conducted in December 2023 among 867 households in Pomorie. The data about the socio-demographic characteristics of the respondents provide additional information about the households in the city of Pomorie.

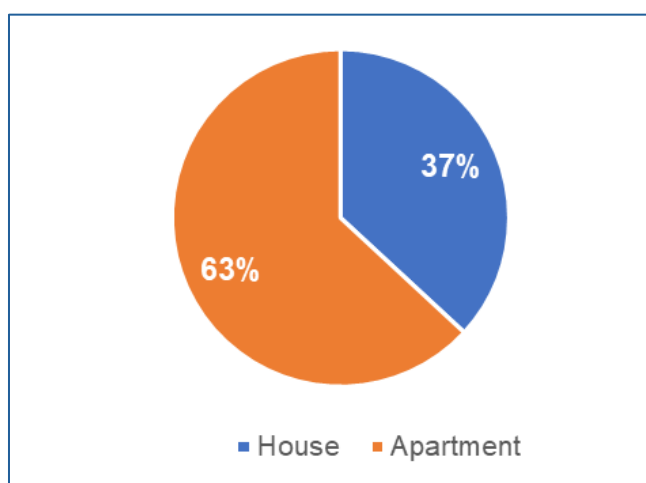
Figure 2. Share of households by number of members



Source: Sociological study among the citizens of the city of Pomorie, conducted 12.2023

It should be noted that the relative share of single-member households is quite large – nearly one third of all households. The share of two-member households is almost the same. These results need to be considered during the planning of the new scheme for door-to-door waste collection and the subsequent changes to the municipal waste fee on the basis of the quantity of waste. In this connection, the responses of 18% of the respondents who face some difficulties paying the waste fee deserve mentioning. Since the question about the waste fee was an open one, the responses revealed additional qualitative information, which shows that the majority of respondents consider the current method of calculation of the waste fee on the basis of the property tax, to be unfair, since it does not take into account the quantity of waste disposed by any given household.

Figure 3. Share of households by housing type



Source: Sociological study among residents of the city of Pomorie, conducted 12.2023

Local business

Municipal and similar waste is also generated by the local business – commercial sites, hotels, restaurants, offices of companies, operating on the territory of the city of Pomorie.

A total of 2424 commercial sites, which generate various quantities of municipal waste, operate on the territory of the city.

Hotels/accommodations places have the most significant share in waste generation among the local businesses. More than 300 categorized accommodations places operate within the city.

Table 1. Categorized accommodations places in the city of Pomorie (number)

Places of accommodation	2022	2023
1 star	28	30
2 stars	250	197
3 stars	89	66
4 stars	7	7
5 stars	3	3
Total	377	303

Source: Municipality Pomorie /USTI

Tourists

Tourists in the city of Pomorie are an important group of waste generators. Their stay in the city during the summer season results in a significant increase in the quantity of generated waste.

Municipality Pomorie regularly elaborates annual reports with analyses of the tourist seasons and uses them for planning out the actions to be undertaken during the new season. The data about this group of waste generators are presented below.

Table 2. Overnight stays at accommodations (number)

	2022	2023
1 star	19 339	23 889
2 stars	105 754	76 419
3 stars	72 013	72 839
4 stars	152 870	124 683
5 stars	297 852	232 089
Uncategorized	51 067	52 493
Total number of overnight stays	698 895	582 412

Source: Pomorie municipality

Table 3. Persons staying overnight at accommodations places (number)

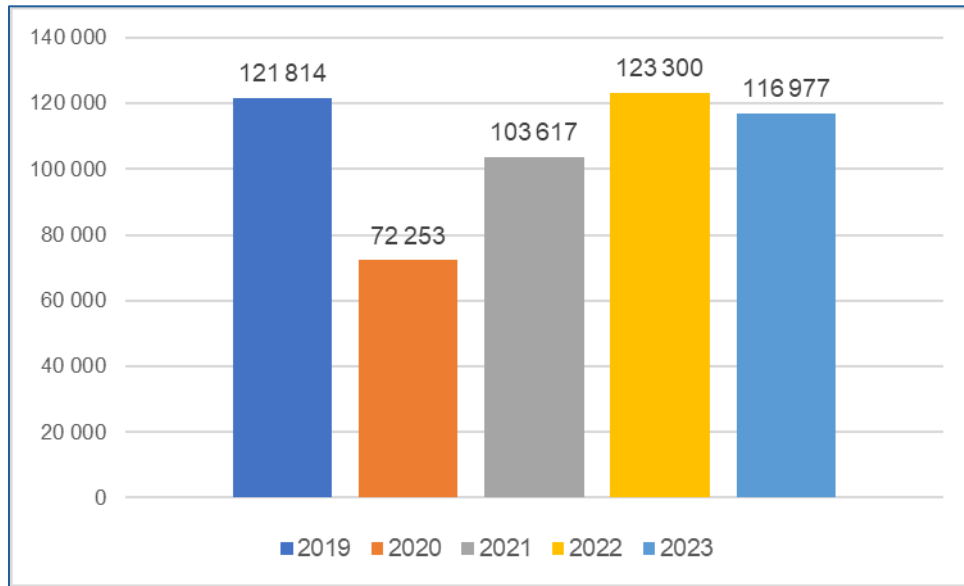
	2022	2023
At 1-star places	2646	2808
At 2-star places	13 203	12 803
At 3-star places	13 917	15 990
At 4-star places	24 818	23 601
At 5-star places	62 933	54 337
At uncategorized places	5783	7438
Total number of persons staying overnight	123 300	116 977

Source: Pomorie municipality

As seen in the table above table, the number of tourists exceeds several times the number of residents of Pomorie. The concentration of tourists in the city is highest during the months June-September.

A comparison of the number of tourists in the period 2019-2023 has been made and illustrated in the following figure.

Figure 4. Number of tourists in the city of Pomorie



Source: Pomorie municipality

The data show that the number of tourists remains comparatively constant during the first and the last two years of the analysed period. The significant decrease of tourists in 2020 is due to the global Covid-19 pandemic, while the next year data show gradual recovering and approaching the average level.

3 Collection and transportation of municipal waste

3.1 Mixed municipal waste

The activities of organized collection and transportation of mixed municipal waste on the territory of the settlements in Pomorie municipality is carried out by public municipal enterprise “Chistota Pomorie” EOOD with 100% of the enterprise’s capital owned by municipality Pomorie. The enterprise was established with a Decision of the Municipal Council of Pomorie in 2022 with the purpose of optimizing waste management costs.

The temporary pre-collection storage of mixed waste in the city of Pomorie is carried out in various types of waste containers, specified in the following table:

Table 4. Containers for collection of mixed waste

Data	2023	
	Capacity (l)	Number
Containers for households - individual	240	6480
Containers for households - general	1100	478
Containers for companies - individual	240	88
Containers for companies - general	1100	38

Source: Pomorie municipality

The municipality has special means of transport for collecting and transporting municipal waste to facilities for pre-treatment storage or treatment.

Table 5. Waste transportation means

Reg. №	Model	Specifications	Type of waste
CA 8980 TM	Mercedes	Truck -14 m ³ ; CASK; 2 axles	Mixed
CB 8831 PI	Mercedes Econic	Truck -14 m ³ ; PRESS; 2 axles	Mixed
CB 1297 PH	Mercedes Econic	Truck -18 m ³ ; CASK; 3 axles	Mixed and separately collected
CB 5110 KT	Mercedes Econic	Truck -18 m ³ ; CASK; 3 axles	Mixed
CB 6508 PK	Mercedes Econic	Truck -18 m ³ ; PRESS; 3 axles	Mixed
CB 9983 PB	Mercedes Atego	Truck -18 m ³ ; PRESS; 3 axles	Mixed
A 0190 PK	Mercedes Econic	Truck -18 m ³ ; PRESS; 3 axles	Mixed
A 0930 PK	Mercedes Econic	Truck -18 m ³ ; PRESS; 3 axles	Mixed
CB 2509 KC	Mercedes Ladog	Truck - 4 m ³ ; PRESS; 2 axles	Street bins
CB 5113 MK	Mercedes	Truck - 6 m ³ ; PRESS; 2 axles	Separately collected
CB 5591 MK	Man	Truck - 8 m ³ ; PRESS; 2 axles	Mixed
CB 0072 MH	Volvo	Water tank -10 m ³ , 2 axles	Water supply
CB 1351 MB	Mercedes	Crane 6 m ³ ; 2 axles	Bulky waste and grass containers

Reg. №	Model	Specifications	Type of waste
CB 2602 MB	Mercedes	Dump truck - 2 m ³ ; 2 axles	Bulky waste and construction waste
CB 7909 MA	Mercedes Actross	Dump truck – 6 m ³ ; 2 axles	Bulky waste and construction waste
A 3107 PB	Volkswagen Caddy	Truck	Bulky waste and construction waste
A 9876 PK	Volvo FM 400	Containers truck	Construction and household waste

Source: Pomorie municipality

Most specialized cars have an expired depreciation period.

The emptying of waste containers is carried out according to a schedule approved by order of the mayor of the municipality. Garbage is collected twice a week.

Schedule for transportation of mixed municipal waste, as of 31.12.2023

<p>Monday, Thursday</p> <p>Knyaz Boris I str., Pazarna str., slivnitsa Str., Graf Ignatiev str., Lozarska str., San Stefano str., Tsar Kaloyan str., Gurko str., Opalchenska str., Patriarch Evtimiy str., General Skobelev str. , Buzludzha str., Ekzarch Yosif str., Cherkovna str., Tsar Samuil str., Antim I str., Hadji Dimitar str., Treti Mart str., Raina Knyagina str., Ivan Vazov str., Vasil Levski str., Dobrich str., Tutrakan str., P.K. Yavorov str., Yordan Yovkov str., Odrin str., Lozengradska str., Targovska str., Petar Beron str., Geo Milev str., Alexander Stamboliyski str., Dimo Hadjidimov str., Angel Kanchev str., Lyuben Karavelov str., Ilinden str., Sredna Gora str., Professor Stoyanov str., Solna str., Neo Anchiabo Str., Bulgaria str., Tsar Petar str.</p>
<p>Tuesday, Friday</p> <p>Panayot Volov str., Smirna str., Musala str., Manastirska str., Strandja str., Ivan Vazov str., Tsar Simeon str., Khan Asparuh str., Vitosha str., Han Krum str., Rakovski str., Tsar Osvoboditel str., Stara Planina str., Preslav str., Dunav str., Tsar Shishman str., Ribarska str., Chernomorec str., P.S. Katrafilov str., Dimo Hadjidimov str., Angel Kanchev str., Pliska str., Dobri Chintulov str., Zahari Stoyanov str., Han Kubrat str., Stefan Karadzha str., Neptun str., Kraibrezhna str., Batenberg str., Tundzha str., Evropa str., Sofroniy Vrachanski str., Bulgaria str., Tuthon str., Timok str., Ogosta str., Ropotamo str., Svoboda locality, Krotirya str., Chaika str., P.K. Yavorov str., Professor Stoyanov str., Solna str., Neo Anchiabo str., Tsar Petar str., Lahana locality, Kosharite locality, Morska str., Drava str., Petko Voivoda str., Georgi Kondolov str., Struma str., Mest str., Lazar Madzharov str.</p>
<p>Wednesday, Saturday</p> <p>Bulair Str., Macedonia str., Trakia str., Lozengradska str., Tsar Asen str., Bratya Miladinovi str., Veliko Tarnovo str., Benkovski str., Aheloy str., Paisiy Hilendarski str., Yordan Yovkov</p>

str., P. K. Yavorov Str., Vardar str., Lyuleburgaz str., Bunar Hisar str., Trapezitsa str., Belasitsa str., Bulair str., Aleko Konstantinov str., Otets Paisiy str., Saedinenie str., Hristo Botev str., Shipka str., Hadji Dimitar str., Pirin str., Musala str., Maritsa str., P.R. Slaveykov str., Tsvetnitsa str., Vazrazhdane str., Panayot Volov str., Smirna str., Strandzha str., Republikanska str., Gotse Delchev str., Stoletov str., Oborishte str., Soleno Ezero str., Rodopi str., Iskar str., Izgrev str., Kamchia str., Professor Stoyanov str., Solna str., Neo Anhialo str., Bulgaria str., Tsar Petar str., Morska str., Drava str., Petko Voivoda str., Georgi Kondolov str., Struma str., Mesta str., Lazar Madzharov str.

Collected mixed waste is transported to the regional landfill for non-hazardous waste "Bratovo-Zapad" for Burgas region. The landfill is located on an area of 279,265 decares in the land of the village of Polski Izvor, Kameno municipality, Burgas region. It was put into operation in 2015 and serves the municipalities of the regional waste system - Kameno, Burgas, Aytos, Karnobat, Nessebar, Pomorie, Rouen, Sredets and Sungurlare. Municipality of Burgas is the operator and holder of the permit for the landfill. Incoming mixed waste goes through separation, after which part of it is sent for recycling, and the rest is landfilled.

3.2 Separate collection of municipal waste

Packaging waste from paper and cardboard, plastics, glass and metals

The collection and temporary storage of waste from packaging is organized by packaging waste recovery organization "Ecobulpack Bulgaria" AD within the national "extended producer responsibility" scheme, under a contract signed with Pomorie municipality. The scheme is applied in two cities in the municipality – Pomorie and Ahelaj.

A two-container system is used, which includes yellow and green containers.

The waste containers placed on the territory of the city of Pomorie are as follows:

- **113 yellow containers type Beaver with a capacity of 1100 l** – for separate collection of waste paper, plastic and metal packaging
- **105 green containers type Igloo with a capacity of 1400 l** – for separate collection of waste glass packaging

The containers are placed throughout the entire city - their exact locations are specified in the following table.

Table 6. SCHEME of location of the containers for separate collection of packaging waste in the city of Pomorie

№	Address	"BEAVER" Yellow 1100 l	IGLOO Green 1400 l
1	Camping "Europe"	1	1
2	"Blue Bay" hotel	1	1

№	Address	“BEAVER” Yellow 1100 I	IGLOO Green 1400 I
3	Aquapark	1	1
4	“Sunny Resort” store	1	
5	“Sunset Resort” complex	3	2
6	“Penelope Palace” hotel	1	1
7	“Festa” hotel, Via Pontica	1	1
8	“Festa” hotel, resort	1	1
9	“Sveti Georgy” residential district, Knyaz Boris I str., from the Monastery	6	5
10	Manastirska str., intersection with P. Volov	1	1
11	Morska str.	0	2
12	“Petrol” gas station	1	1
13	“SMG” gas station	1	1
14	“Bonida” storage facility	3	3
15	Peter Beron str.	1	1
16	Manastirska str., intersection with Musala	2	
17	Strandja str., next to “Toplivo”	1	
18	Strandja str., next to the storage facility	1	
19	Strandja str., BKS	2	1
20	Knyaz Boris I str., “Grand Market”	2	1
21	Knyaz Boris I str., “Zaharo” workshop	2	1
22	Knyaz Boris I str., Billa store	0	1
23	Knyaz Boris I str., Lidl store	2	
24	Knyaz Boris I str., vegetable market	1	
25	Svoboda residential district, building 24	0	1
26	Svoboda residential district, building 15	1	1
27	Svoboda residential district, inter-block area	0	4
28	Knyaz Boris I str., DA Pomorie	0	1
29	Svoboda residential district, bread factory	1	1
30	Solna str., “Zaharo” confectionery	1	1
31	Solna str., from traffic light to building 25	5	14
32	Solna str., next to EVN	1	1
33	7, Slivnitsa str., red building	2	1
34	7, Graf Ignatiev str.	1	
35	75, Knyaz Boris I str.	1	
36	Yavorov str., from Vardar to Al. Konstantinov	4	8
37	Passenger port	1	1
38	Fishing port	1	
39	Knyaz Boris I str., from “Paradise” hotel to “Peneka” tavern	3	2
40	Knyaz Boris I str., next to “Peneka” hotel	0	1
41	Aheloy str.	2	1
42	Tsar Simeon, hold shopping center	0	1
43	Knyaz Boris I str., “Stib” store	1	
44	Tsar Asen str., next to “Wind Bar”	0	1

№	Address	“BEAVER” Yellow 1100 l	IGLOO Green 1400 l
45	Tsar Asen str., intersection with Solna str.	0	1
46	Yavorov str., “Byal Dom” hotel	0	1
47	Sports ground next to the Russian monument	2	1
48	Tsar Samuil str.	1	
49	Pomorie municipality parking	2	2
50	Pop Sava Karamfilov str.	0	1
51	Neo Anhialo str.	2	1
52	Tsar Peter str.	2	1
53	Ivan Alexander str.	0	2
54	“Mega” and “Stib” stores	5	1
55	Krajbrezhna str.	0	2
56	Europe str.	2	3
57	Bulgaria str.	2	4
58	Mitropolit Kliment, “Parus” store	2	
59	Timok str.	3	2
60	Prof. Stoyanov str.	6	2
61	Prof. Stoyanov str., “Sv. Sv. Peter and Pavel” hotel	1	2
62	Prof. Stoyanov str., Black Sea holiday stations	2	6
63	Macedonia str., “Lina” laboratory	0	2
	TOTAL	113	105

Source: Ecobulpack Bulgaria AD

The waste from the containers is collected according to a schedule, which is consistent with the characteristics of the city of Pomorie as a seaside and balneological resort.

Table 7. Schedule for collection of packaging waste

Type of container	Year round	During the period June 1 – September 30
Yellow container for packaging from paper, cardboard, plastic and metals	two times a week	three times a month
Green container for glass packaging	once every quarter	two times a month

Source: Ecobulpack Bulgaria AD

The yellow containers are emptied by Municipal Enterprise “Chistota Pomorie”, while the green ones - by company “Ecorecycle” Ltd.

The collected waste is transported to a sorting facility, located at the Nessebur Transfer Station. The installation has a capacity of 25 tons/hour. There are 2 automatic baling presses with a capacity of 15 t/h and 25 t/h for baling paper and cardboard and plastic waste at the site. All incoming waste goes through separation, after which part of it is sent for recycling, and the rest is transported to the regional landfill "Bratovo" for disposal. The transport costs are at the expense of "Ecobulpack Bulgaria" AD, and the fee for landfilling is paid by municipality Pomorie.

Textile and shoe waste

The scheme for separate collection of textile and shoes waste in the city of Pomorie is carried out by TexCycle – a brand of “Eurotex” EOOD, under a contract signed with Pomorie municipality.

Three specialized containers for separately collected textile waste and shoes have been situated on the territory of the city at the following locations:

- 5, Solna str. – in the parking lot opposite the building of the municipality
- 98, Knyaz Boris I str. – next to the building of the Regional Directorate of the Ministry of Interior
- 211, Knyaz Boris I str. – at the bus station in Sveti Georgy residential district



Biodegradable waste

At present, biodegradable waste is not collected separately in the municipality due to the lack of infrastructure for its treatment. However, a scheme for separate collection of biodegradable waste will be introduced as of the middle of 2024.

Towards the end of 2023, municipality Pomorie, in cooperation with municipalities Burgas and Nessebur, completed the implementation of project “*Construction of Anaerobic Installation for Separately Collected Biodegradable Waste on the Territory of Burgas District*”, which was financed by Operational Programme “Environment” 2014-2020, co-financed by the EC. Besides the funding from the EC, the project is also funded with own resources of the three municipalities, which were allocated among the project partners as follows: municipality Burgas – 54.61%, municipality Nessebur – 33.38% and municipality Pomorie – 12.01%. Within the framework of the project a modern anaerobic installation has been constructed with a total capacity of 30 652 t/year. It is situated in the Northern Industrial Zone near “Krajezerna” street in the city of Burgas, in the proximity of the Wastewater Treatment Plant. It is the first anaerobic installation in Bulgaria that uses the dry methanation method.

An installation for composting of green waste with 6 tunnels has also been constructed. The capacity of the two facilities was calculated in such a way as to ensure treatment of the quantities of biodegradable waste generated by the three municipalities and fulfilment of the set targets for reduction of the quantities of landfilled biodegradable waste over the next 20 years.

Resources from the project have been used to ensure the availability of the necessary infrastructure for introduction of a common system for collection, transportation and treatment of green waste of the food waste in the three municipalities.

In municipality Pomorie the system will operate on the territory of the city of Pomorie. The following equipment was purchased:

- 890 waste containers with a capacity of 120 l for food waste
- 249 waste containers with a capacity of 240 l for green waste

The food waste containers for the household will be placed on the streets, while the containers for the commercial sites (restaurants and hotels) will be individually placed.

The containers for green waste will be placed in the proximity of green areas in the city of Pomorie.

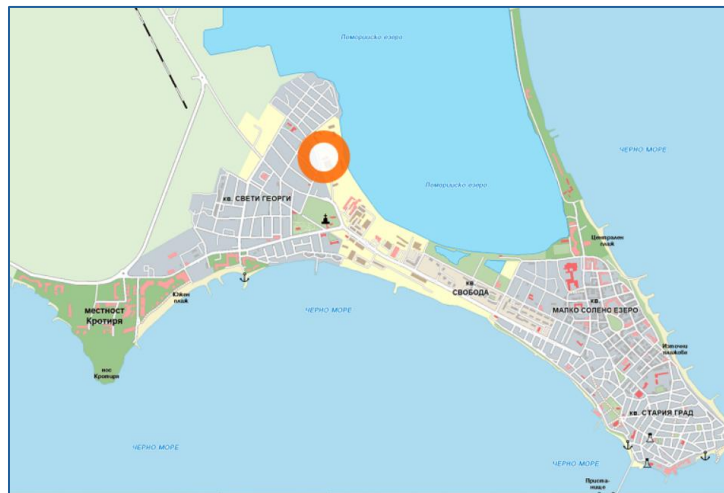
The operator of the Anaerobic Station Burgas will empty the containers and transport collected food and green waste to the anaerobic installation.

The system for separate collection of biodegradable waste is expected to become operational in June 2024.

Bulky, hazardous and other types of municipal waste

As per the requirements set forth in art. 19, para. 3, pt. 11 of the Waste Management Act, a waste Centre for free delivery of separately collected waste operates in the city of Pomorie. Municipality Pomorie obtained Permit № 02-ДО-514-00/04.12.2018 for waste activities, issued by RIEW Burgas.

The Centre is located in the Industrial Zone, at 5, “Strandja” str. and is open every working day from 8:30 to 12:30 and from 13:00 to 17:00.



The Centre is equipped with an electronic scale for exercising input control and weighing of the incoming waste; it has a warehouse area for storage of waste and parking spaces for vehicles. Sufficient area for the offloading of the incoming waste has also been ensured. Specialized containers are installed to ensure proper storage of waste and prevent environmental risks from spilling of the waste.

Households may deliver various types of sorted waste, incl. bulky waste, waste batteries and accumulators, waste electrical and electronic equipment (WEEE), hazardous municipal waste.

Bulky waste is transported to the Nessebar Transfer Station, which has a facility for recycling construction and bulky waste with a capacity of 20 t/hour. The collected widespread waste is handed over to the company "Euro Impex - Burgas" EOOD. The hazardous waste collected is collected, transported and treated by the company "Balbok Engineering" AD, with which municipality Pomorie has signed a contract.

The municipality should promote more actively among residents the Center and the possibility of handing over separately collected municipal waste.

Widespread waste

Municipality Pomorie has signed a contract with "Euro Impex – Burgas" OOOD, dated 07.12.2021, for separately collected waste electric and electronic equipment, unusable batteries and accumulators, out-of-use vehicles, unusable tires. Widespread waste collected in the city of Pomorie is transported to a site of the company in the city of Kableschkovo in Pomorie municipality. "Euro Impex – Burgas" EOOD possesses a Permit № 02-ДО-435-05/09.08.2018 for waste treatment activities. The company also organizes campaigns for widespread waste collection – the dates and the temporary sites in the settlements are further clarified and announced. Containers for collection of portable batteries from the households are being placed in public areas, schools, establishments and others.

The municipality has concluded a contract with the recovery organization "Oil Recycling" EOOD for the separate collection of used oils from individuals in the city of Pomorie.

Other waste

The analysis of the schemes for collection of the various waste streams shows that the municipality has not provided containers for the disposal of ash and cinder from the burning of solid fuels and this type of waste is usually disposed of in the containers for mixed municipal waste.

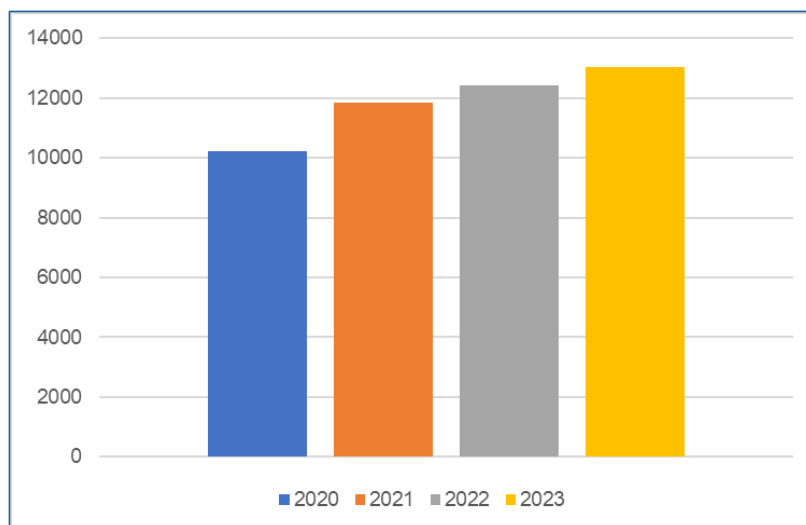
There is still no service for the collection of construction waste from household renovation activities, which is why some construction waste also falls into the containers for mixed municipal waste. At the time of the present analysis, the municipality has drafted amendments to *Ordinance No. 9 on the management of waste activities on the territory of municipality Pomorie*, including regarding chapter on construction waste. The draft has been published on the website of the municipality for public discussion together with an invitation to express opinions and comments.

4 Quantities of municipal waste

4.1 Mixed municipal waste

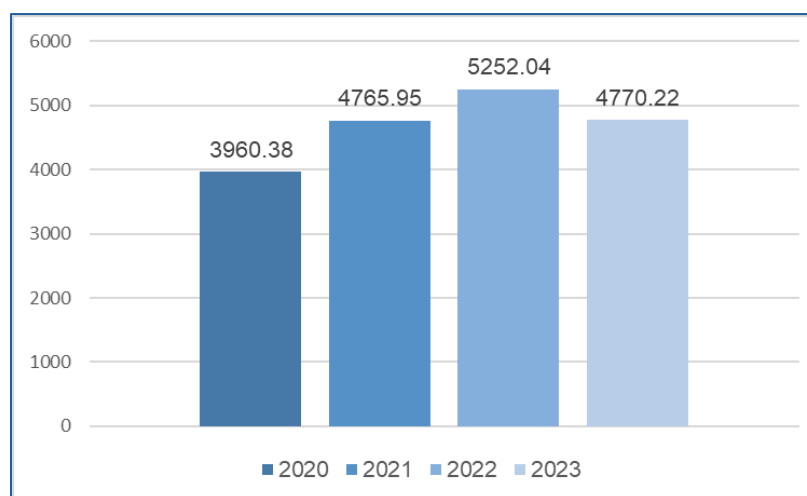
The quantity of mixed municipal waste collected on the territory of the entire municipality and on the territory of the city of Pomorie are presented on the following figures.

Figure 5. Mixed municipal waste collected in Pomorie municipality (tons)



Source: Pomorie municipality

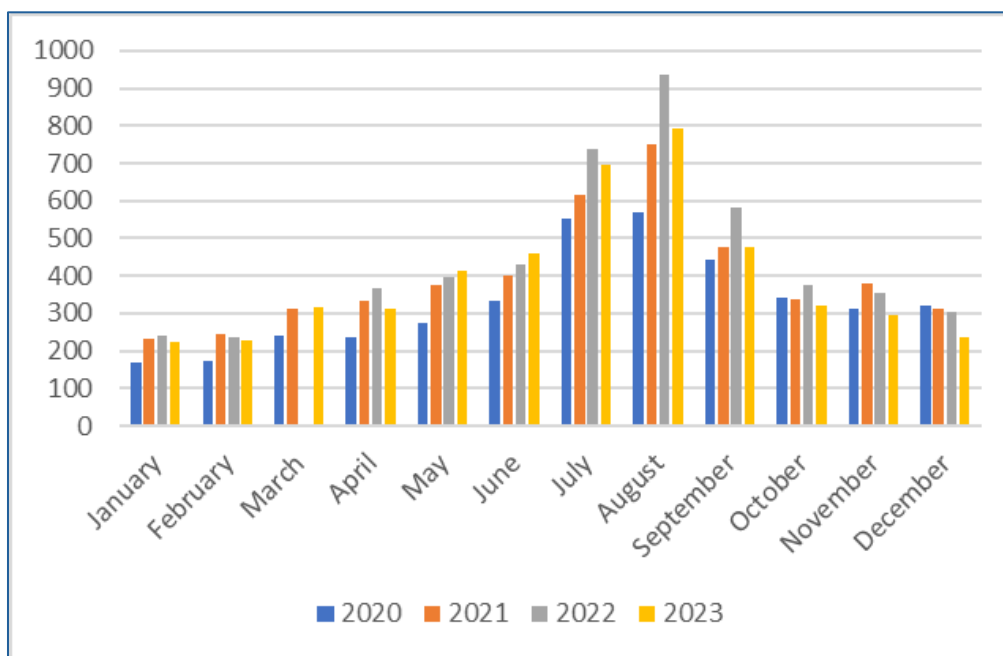
Figure 6. Mixed municipal waste collected in the city Pomorie (tons)



Source: Pomorie municipality

The data show that the quantity of collected waste in the municipality constantly increases, while in the city of Pomorie it decreases in the last year of the analysed period. The detailed analytical review show that the registered increase in the total quantity of mixed municipal waste in the municipality is mainly due to the significant increase in the amount of waste collected in the city of Aheloj (by 62% compared to 2022) and, to a lesser extent, the city of Kableshkovo (15%).

Figure 7. Collected mixed municipal waste in the city of Pomorie by months (tons)

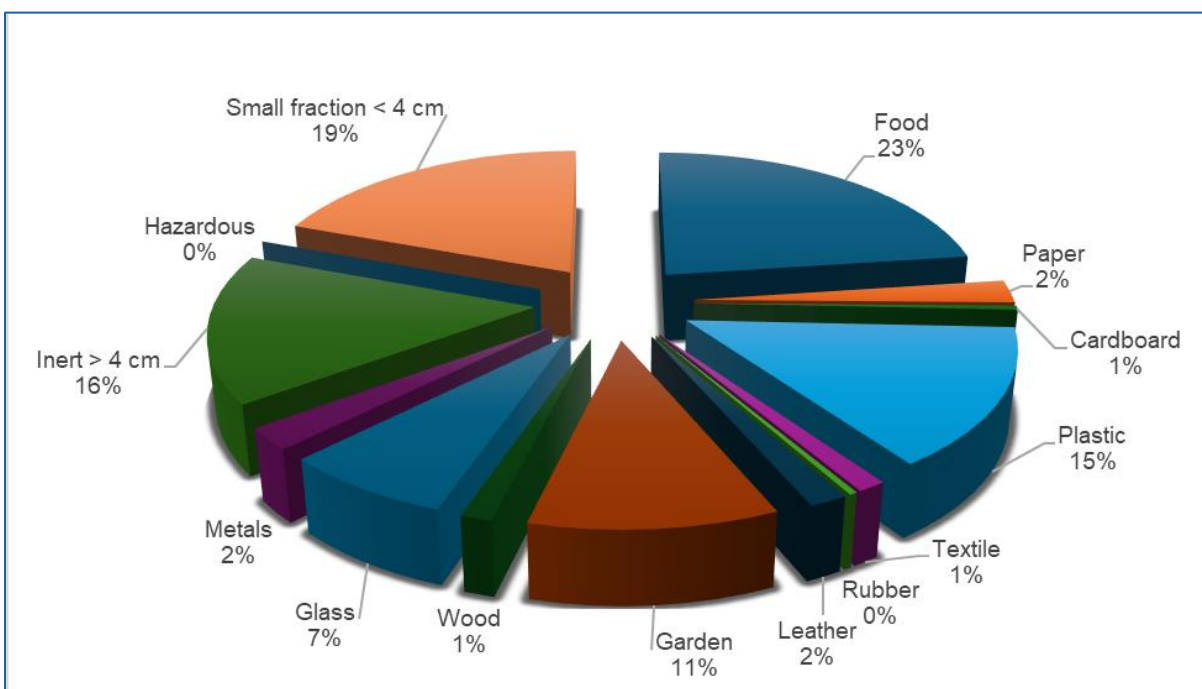


Source: Pomorie municipality

The above figure clearly shows the significantly higher quantity of mixed waste, collected during the summer season, which is due to the influx of tourists into the city during this part of the year. In those four months alone (June-September), 48% of the total annual quantity of mixed waste was collected in 2020 – respectively, 47% in 2021 and 51% in 2022 and 2023.

Pomorie	2020 tons	2021 tons	2022 tons	2023 tons
January	169,26	230,2	242,36	225,4
February	171,44	242,66	235,70	227,98
March	242,40	312,60	292,38	317,98
April	234,06	332,10	366,53	311,00
May	275,40	374,12	398,04	412,96
June	331,10	399,72	429,18	458,62
July	552,34	616,54	738,70	696,37
August	569,96	748,74	934,63	794,53
September	443,10	477,98	583,02	475,27
October	340,42	338,29	374,28	318,74
November	310,60	380,90	355,61	294,52
December	320,30	312,10	301,61	236,85
Total	3960,38	4765,95	5252,04	4770,22
% of the preceding year		17%	9%	-10%

Figure 8. Morphological composition of mixed municipal waste



Source: Pomorie municipality

Food waste forms the largest relative share within the morphological composition of mixed municipal waste – it represents nearly a quarter of all mixed municipal waste.

The small fraction (sized <4 cm) ranks second – it consists of waste from dirt, pebbles, ash, slag, small biodegradable waste, cinders and others. Amongst the other types of waste, plastics and inert materials comprise the largest relative shares.

Biodegradable waste represents 38.8% in the morphology of the mixed municipal waste.

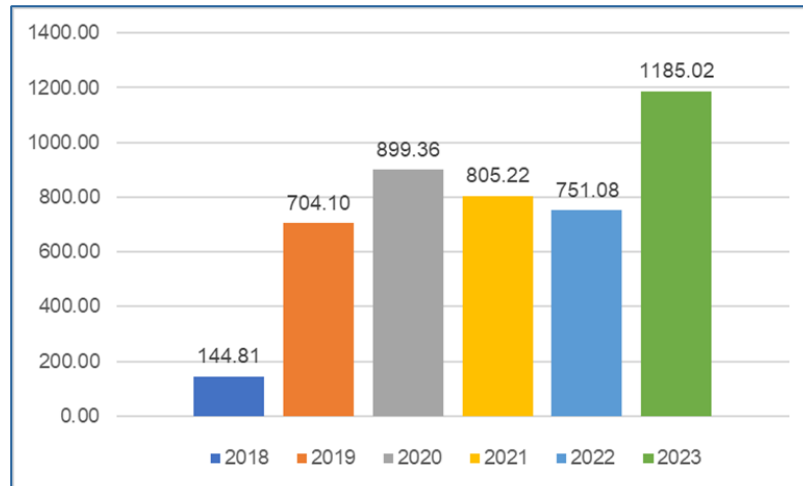
The analysis of the morphological composition by season shows some seasonal fluctuations in waste composition. Logically, the share of garden waste increases in spring and summer. During the summer tourist season, there is a slight increase in paper and inert waste compared to the other seasons, and in the winter, the largest amounts of food waste and plastic waste are registered.

Given these data on the composition of the mixed municipal waste, before introducing the new door-to-door waste collection system, Pomorie municipality should provide an alternative for disposal of ash and cinders from burning solid fuels (heating appliances at wood and pellets are quite used in houses) and organize the separate disposal of construction waste from small renovation activities of households. In addition, appropriate control measures should be applied with a view to minimizing the present of such waste in the containers for mixed waste and ensuring quality separation of waste.

4.2 Packaging waste

The quantities of separately collected packaging waste are presented on the following figures.

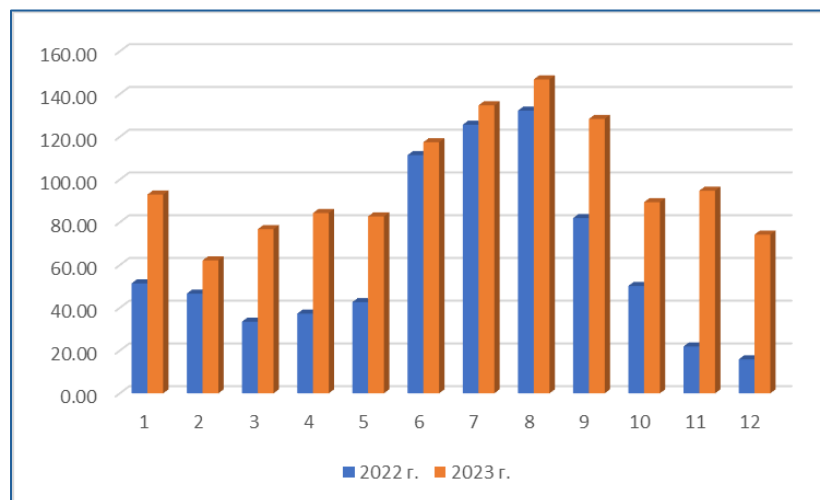
Figure 9. Packaging waste (tons)



Source: Ecobulpack Bulgaria AD

The data about the quantities of separately collected waste from packaging show an increase in the total quantities – the increase, registered in 2023 compared to the preceding year, is 58%. Waste from paper and cardboard have the largest relative share in the packaging waste.

Figure 10. Packaging waste by months (tons)



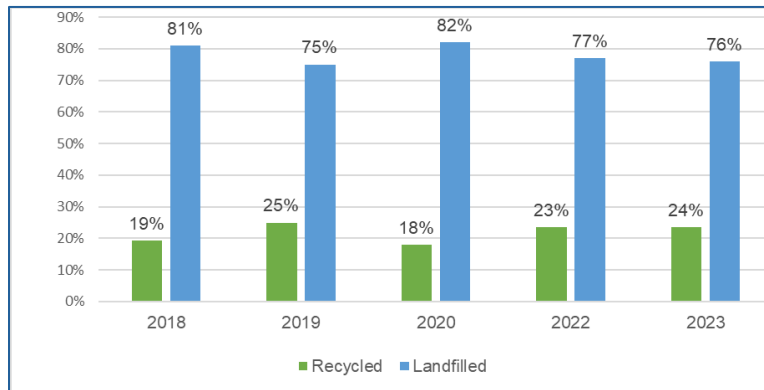
Source: Ecobulpack Bulgaria AD

Once again, similarly to the quantity of mixed waste, the monthly data clearly show that during the summer season the collected quantities of packaging waste increase nearly two times - during a period of only four months (June-September) 60% of the total annual quantity of packaging waste was collected in 2022 and 45% in 2023, which is due to the influx of tourists during this period of

the year. The data also show that within the 4 summer months the increase is, on average, by 20%, while during the remaining months the average rate of increase is two and a half times.

The share of recyclable packaging waste after sorting and the share of waste disposed in a landfill remain relatively constant in years 2022 and 2023, as illustrated in the following figure.

Figure 11. Share of packaging waste for recycling and for disposal



Source: Expert calculations

The figure clearly shows the small share of waste suitable for recycling, in the total quantity of collected packaging waste. Despite the increase in the quantities collected 2023, the share of recycled waste remains almost constant over the last few years. According to representatives of the recovery organization, the main reason for the small share of recyclable waste is the improper throwing of unrecyclable waste in the yellow and green containers. This confirms the need for the planned activities in the HA2WASTE project to increase their knowledge of the population on proper sorting of waste at home and the types of recyclable waste.

More than half of the packaging waste transferred for recycling is paper and cardboard. In second place is the quantity of plastic waste, incl. also from single-use plastic packaging - bottles for drinks up to 3 litres.

Figure 12. Recycled packaging waste by type



Source: Expert calculations

4.3 Other municipal waste streams

Textile waste, bulky waste, WEEE, hazardous waste and used oils from households are collected on the territory of Pomorie. In 2023, no hazardous waste and used oils were collected.

Table 8. Other types of separately collected waste (tons)

	2019	2020	2021	2022	2023
Textile waste	18.415	12.474	12.934	13.400	15.523
Bulky waste	n/a	n/a	n/a	85.360	37.760
WEEE	0.04	0.10	n/a	n/a	4,94

Source: Pomorie municipality

--

In conclusion, as a whole, the quantities of separately collected municipal waste remain small during the entire analysed period in comparison to the total quantities of collected waste. The expectations are that this situation will change with the introduction, within the framework of the current project, of a door-to-door collection scheme and the quantity-based calculation of the waste fee, as well as through the introduction of the system for separate collection of biodegradable waste.

4.4 Total generated municipal waste

Given the lack of an integrated information system for waste monitoring in the municipality, the total municipal waste generated in the territory of the city of Pomorie was calculated based on the available data on the quantities of mixed and separately collected waste in the city.

Table 9. Total generated municipal waste (tons)

Type of waste	2022	2023
Mixed waste	5252.04	4770.22
Packaging waste from paper, cardboard, plastics, glass and metals	751.08	1182.02
Textile waste	13.40	15.52
Bulky waste	85.36	37.76
WEEE	н.д.	4.94
Total	6101,88	6010,46

Source: Expert calculations

It can be assumed that the indicated quantities do not cover all generated waste, mainly regarding garden waste and mass-distributed waste generated by hotels, restaurants and commercial establishments.

4.5 Amounts of waste disposed of in landfill

The amounts of waste disposed of in regional landfill “Bratovo” are indicated in the following table.

Table 10. Total amount of waste disposal in landfill – municipality Pomorie (tons)

2019	2020	2021	2022	2023
10 513.27	10 225.38	11846.04	12 119.68	12 686.28

Source: RIEW Burgas, municipality Pomorie

There are no disaggregated data by settlements on waste sent to the regional landfill, therefore data for the city of Pomorie are not available.

The data show an alarming trend towards an increase in the amount of waste landfilled. On the one hand, the amount of generated waste is increasing, and on the other hand, the share of waste separately collected and sent for recycling remains small.

According to Art. 31, para. 1, item 4 ZUO:

- by 31.12.2035 at the latest - the amount of landfilled municipal waste has decreased to 10 percent or less of the total amount of generated waste

This goal shall be achieved step by step according to the terms specified in §15 (5) of the WMA:

- until December 31, 2025 - at least up to 50 percent of their total weight;
- until December 31, 2030 - at least up to 30 percent of their total weight;

Given the high costs of paying the fees under Art. 64 WMA for disposal in landfills, the municipality should take targeted measures to significantly increase the share of waste diverted from landfill, as well as carry out information waste prevention campaigns. A reduction or exemption from landfill fees will free up a significant financial resource that can be used to improve the quality of services, and to reduce the household waste fee if possible.

5 Financial flows for waste management

5.1 Expenditures for municipal waste management

Expenditures for waste-related activities of Pomorie municipality for the years 2022 and 2023 are presented in the following table:

Table 11. Waste management costs (BGN)

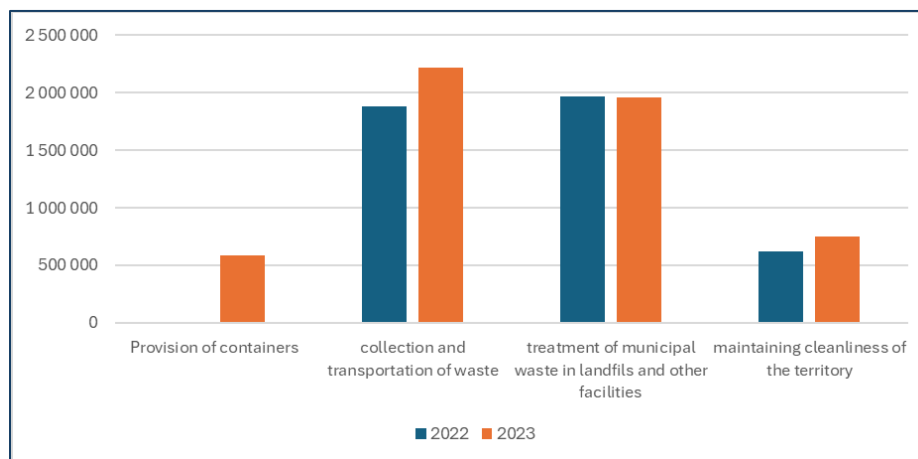
	2022	2023
Total expenditures for waste management	4 475 112	5 512 085
incl. for:		
- provision of containers for pre-storage of municipal waste	6 734	585 046
- collection, incl. separate, and transportation of municipal waste to treatment facilities	1 877 160	2 217 486
- research, design, construction, maintenance, operation, closure and monitoring of municipal waste landfills or other installations or facilities for the disposal, recycling and utilization of municipal waste, including deductions under Art. 60 and 64 of the Waste Management Act	1 967 008	1 955 782
- cleaning the streets, squares, alleys, parks and other territories of the settlements intended for public use	624 210.00	753 771

Source: Source: Reports on the execution of the plan-accounts of municipality Pomorie

An increasing trend is observed in the total expenditures for waste management in recent years. The higher increase in spending in 2022 and 2023 is due to several main reasons:

- the high annual inflation rate and increased fuel prices;
- the actions and investments undertaken by the municipality to improve the efficiency of waste collection and treatment systems and the related costs, including for:
 - o purchase of 100% of the shares in Chistota Pomorie EOOD (vessels and vehicles) and payment of principal and interest on the loan taken for the purpose;
 - o purchase of containers for preliminary storage of biodegradable waste in connection with the completed project for the construction of an anaerobic installation and the introduction of separate collection and treatment of this waste stream;
 - o the increased amount of deductions under Art. 64 of the ZUO for disposal of waste at the regional landfill.

As can be seen from the figure below, in both years the structure of waste management costs is relatively similar.



The expenditure of collection and transportation of municipal waste have the largest relative share and the higher costs in 2023 are due to payment of instalments on loans for the purchase of containers and machines for waste collection.

The expenditures for treatment of household waste in landfills and other facilities are almost the same in both years, and here it should be noted that these costs include the deductions under Art. 64 of the WMA, which represent nearly 70% of the costs in this group.

The waste plan-account for 2024, adopted by the Pomorie Municipal Council with decision No. 29/15.12.2023, shows that the trend towards an increase in expenditure is maintained, as the total costs are expected to increase to BGN 6,216,778. The review of the planned costs shows that a significant increase is expected in the costs of maintaining the cleanliness of the territories for public use and they represent the largest share in the total planned expenditures for waste management. The increase is due to loan repayments in the amount of BGN 764,304 and control and external services in connection with the introduction of a system for collection and treatment of green and food waste in the amount of BGN 580,932.

5.2 Income and funding sources

Municipal waste fee is the main economic instrument and source of financing for waste management in Pomorie municipality.

The amount of collected revenue from the waste fee is:

- **Year 2022 - BGN 4,475,112**
- **Year 2023 - BGN 4,564,300**

In the period under review, no changes were made to Ordinance No. 11 regarding the amount of the municipal waste fee for the households and the businesses.

The collection rate in 2022 is 84%, and in 2023 - 88%.

The revenues from the municipal waste fee increase in 2023 compared to the previous year, and an increase is also expected in the current year 2024 according to the adopted plan-account.

However, the rate of increase in the revenues from this funding source lags behind the increase in waste management expenditures. In 2023, the municipality co-finances waste management expenditure additionally with a budgetary transitional balance of the municipal waste fee from previous years in the amount of BGN 864,385.

Another source of funds for financing waste activities are the deductions under Art. 64 of the WMA. By the end of the second quarter of 2023, a total of nearly BGN 2.89 million from the municipality of Pomorie had entered the accounts of RIEW Burgas, of which over BGN 2.87 million were spent funds. Until now, the municipality relies on the funds from the deductions almost every year, and for 2022 alone it has used over BGN 860 thousand.

6 Institutional capacity

The analysis of the institutional capacity investigates those particular aspects, which are important for the introduction of the new scheme for door-to-door collection of waste and the subsequent change in the calculation of the municipal waste fee in accordance with the “polluter pays” principles.

6.1 Allocation of functions

The waste management functions of municipalities, which stem from the legal framework, can be conditionally grouped as follows:

- *Waste management policy*– elaboration of municipal programmes and regulations
- *Service provision* – collection, including separate collection, transportation and treatment of waste
- *Supervision and control*– exercising control and conducting inspections, incl. preventative, current and ex-post control and coordination with other authorities
- *Auxiliary functions* – information provision for the purposes of waste management, awareness raising of the general public and others.

Waste management policy

Municipality Pomorie has the capacity and fully fulfils the legally assigned obligations for the elaboration of regulatory and programming documents in the field of waste. The Municipal Council has adopted:

- A municipal Waste Management Programme for the period 2021-2028, adopted pursuant to art. 52 of the Waste Management Act.
- Ordinance № 9 on management of waste-related activities on the territory of municipality Pomorie, adopted pursuant to art. 22 of the WMA

- Ordinance №11 for setting and administering local fees and service prices and rights on the territory of Pomorie municipality, adopted on the grounds of the LTFA.

The conducted analytical review of the documents shows that they comply with the requirements set forth by the national legislation and, if necessary, are being updated. Currently, the municipality drafted amendments to Ordinance №9 to further detail some issues relating to specific waste streams.

After introduction of the new scheme for door-to-door waste collection under HA2WASTE project, Ordinance № 9 and Ordinance № 11 will need updating.

Provision of waste-related services

The assignment of functions relating to storage, collection, including separate collection, transportation and treatment of municipal waste has been ensured through:

- structural units at the municipal administration
- municipal public enterprise “Chistota Pomorie” EOOD
- contracts with external companies

The municipal administration has organizational, regulatory and control functions as well as function of information provision about of implementation of the waste-related activities and elaboration of reports.

The responsibilities relating to waste of the units at municipal administration Pomorie are described in the *Rules for Organization and Activity of the Municipal Administration in Pomorie Municipality* as well as in Ordinance № 9 on management of waste-related activities on the territory of Pomorie municipality. The responsibilities of the employees are specified in their job descriptions and in orders of the mayor of the municipality.

At the political level, the deputy mayor of construction, infrastructure, transport and project management coordinates the implementation of the national and municipal policy with regard to the environment, the activities of waste treatment and preservation of the cleanliness on the territory of the municipality.

Department “Spatial planning and environmental protection” at the “Construction, spatial planning, municipal property and project management” Directorate is directly responsible for waste management activities and for the preservation of the cleanliness on the territory of Pomorie municipality, including for the control and the coordination with other institutions.

In view of the specificity of the budgeting process, the functions relating to the financial management of waste-related activities are assigned, in their entirety, to the municipal administration.

A lead role in the financial management of waste related activities is assigned to Directorate “Budget, finance and accounting activities”. The directorate performs all functions relating to

planning and spending of the municipality budget as well as all budgeting activities, including for waste-related activities; it elaborates the annual waste accounts and the reports on their execution; exercises control and performs payments under the contracts with external contractors for waste activities; it elaborates recommendations to the Municipal Council for amendments to the Ordinance for calculation and administration of local fees and service prices, monitors the timely deposition of the collected amounts as revenue into the municipal budget; it deposits securities under Art. 60 and deductions under Art. 64 of the PMA and others.

Directorate “Revenue, local taxes and tourism” at the specialized administration manages the collection of the municipal waste fee, conducts inspections, processes submitted declarations, identifies administrative violations and issues penalty acts.

“Chistota Pomorie” EOOD, an enterprise owned by Pomorie municipality, performs the activities of collection and transportation of municipal waste from the settlements in the municipality, the manual and machine sweeping and washing of the streets and public areas, the wintertime maintenance of streets, sidewalks and public spaces in the city of Pomorie. The enterprise manages the infrastructure for collection and transportation of waste. The enterprise operates on the grounds of a signed contract with the municipality.

External contractors perform services for separate collection of packaging waste from paper and cardboard, glass and plastic – Ecobulpack Bulgaria AD, widespread waste – “Euro Impex – Burgas” EOOD, textile waste – Eurotex EOOD, hazardous municipal waste – Balbock Engineering AD. The responsibilities of the external contractors are stipulated in the respective contracts and in Ordinance №9.

The conducted analytical review of the waste-related activities performed shows that the municipality performs all functions assigned to municipalities under the WMA and the secondary legislation on its application.

The current situation with regard to the management of construction waste should also be addressed here in view of its impact over the general composition of mixed municipal waste. According to the WMA (art. 19 (3)5), the mayor of the municipality is responsible for organizing the collection, recovery and disposal of construction waste from small renovations, generated by the households on the territory of the respective municipality. Municipality Pomorie has not yet fulfilled this requirement and does not provide to the households the service of organized collection of small quantities of construction waste. It is necessary for the municipality to settle this issue by deciding how it will organize this service for households. At the time of preparing the current analysis, the municipality is preparing amendments to Ordinance No. 9 and should regulate the collection of construction waste from households, after which to carry out regular ongoing control for compliance with the adopted regulations.

Control and coordination

The powers and duties of the mayor for exercising control, as regulated by the WMA, have been assigned to the “Spatial planning and environmental protection” Department. The conducted

review of the annual reports on the implementation of the municipal Waste Management Programme shows that the municipal inspectors annually carry out inspections in order to detect unregulated dumping of waste. Continuous checks are carried out on received requests, applications, signals and complaints from citizens in connection with waste generated environmental problems, and, if necessary, prescriptions are drawn up to eliminate the specific problems.

Information system on waste

Municipality Pomorie does not have a software system for collecting and aggregating data for the purpose of monitoring, control and reporting of waste. The data is collected and stored in different structural units, which does not allow for comprehensive monitoring and analyses. In order to increase efficiency in waste management, it is necessary for the municipality to organize and maintain a waste database. For this purpose, duties should be assigned in the job description of a certain employee to coordinate, collect and register on a monthly basis all data on the amounts of waste by types, method of collection and treatment, etc. Also, other structural units/employees should be assigned obligations to provide data and information to fill in the waste database. The method of providing data by "Chistota Pomorie" EOOD should be clearly defined, in order to facilitate the maintenance of an up-to-date database.

Public awareness

Art. 19, para 3, pt. 13 of the WMA requires the mayors of municipalities to ensure information provision to the general public about waste-related activities and provided services as well as information about the measures for waste prevention and prevention of unregulated disposal of waste. This should be done via the website of the municipality and by other appropriate means.

The conducted review of the website of municipality Pomorie shows that the municipality provides detailed and up-to-date information about waste to the public. The site has a designated "Waste" section. Information is published about documents elaborated by the municipality, conducted waste-related activities and provided services. Important waste-related documents and information have been published - Waste Management Programme for the period 2021-2028, waste-related ordinances, the waste collection schedule, data about the locations and working hours of the waste collection centres and contact information about the companies that perform waste-related activities on the territory of the municipality. Annual reports on the implementation of the Waste Management Programme are also published as well as accounts of revenues and expenditures for waste-related activities with respective clarifications. However, there are no information or educational publications about preventing waste generation and separate collection of waste. The webpage, which has been created under the project HA2WASTE, and the informational and educational activities, which will be performed within the framework of the project, will fill this gap.

The analysis shows that a very good organization has been created in the municipality for provision of current information by the specialized municipal units to the employees in the general administration who maintain the website.

In addition, the municipality conducts targeted events in municipal schools to increase students' environmental awareness, incl. the topics of circular economy, prevention and separate collection of waste.

6.2 Human resources

The analysis of the staff at the *municipal administration* with waste-related functions shows that there are 14 employees working the “Spatial planning and environmental protection” department, which is directly responsible for waste management, and that only two of these employees have been assigned direct waste management functions. These employees also perform the control functions and conduct inspections. Both of them have university degree. However, over the last five years the employees have not participated in any trainings to increase their professional qualification with regard to waste management. Consequently, the municipality has identified the need for the organization of trainings in the field of municipal waste. One of the specific objectives of project HA2WASTE is precisely to build the capacity of municipality Pomorie for effective and sustainable waste management and the activities planned in this field will contribute to the fulfilment of the identified training needs.

As of 01.2024 the full-time staff of “*Chistota Pomorie*” EOOD consists of 60 employees, from which 6 are administrative staff and 59 are waste collection workers. From quantitative standpoint, the available staff is sufficient for the implementation of the currently performed waste-related activities.

7 Conclusions and recommendations

This section of the report presents the summarized conclusions from the analysis of the current situation with regard to waste management in the city of Pomorie. Several recommendations, which stem from the analysis, have also been formulated and shall be taken into consideration during the introduction of the new scheme for door-to-door collection and for calculation of the municipal waste fee on the basis of the quantity of disposed waste.

Population

- The number of the population follows the national trend of decrease and deterioration of the age structure. The decrease for the municipality of Pomorie is less favourable than the average for the country.
- At the end of 2022, the population of Pomorie is smaller by 8.4% compared to the previous two years.

Waste generators

- The generators of waste are the households, the local business and the tourists.
- On an annual basis, the households are the main waste generator. The share of single-person households is nearly a third of all households. The share of two-person households is almost the same, with both groups making up 59% of all households.
- The impact of the tourists as waste generators on the territory of the city of Pomorie is significant in the period May-September.

Collection and transportation of waste

- In the city of Pomorie, there are operational schemes for collection of mixed municipal waste, packaging waste from paper and cardboard, plastic, glass and metals, textile waste. A system for separate collection of biodegradable waste has not yet been introduced due to the lack of infrastructure for its treatment. However, the introduction of such scheme is forthcoming in mid-2024.
- The municipality has ensured sufficient infrastructure for pre-storage, collection and transportation of municipal waste.
- A Centre is organized for submission of separately collected bulky waste, WEEE, waste batteries and accumulators, hazardous municipal waste.
- There is no organized service for collection of construction waste from small renovation activities of households, which leads to the disposal of construction waste into the containers for mixed waste.

Waste

- The total quantity of collected mixed waste in the city of Pomorie increases during the analysed period, with the exception of the last year 2023, when a decrease is registered.
- The annual amounts of mixed waste are directly dependent on the number of tourists during the summer season of the respective year. The amounts collected during the period June-September reach 48-51% of the total annual quantity as a result of the significant number of registered overnight stays by tourists during the summer season.
- The analysis of the data about the quantities of separately collected waste streams shows a low level of public involvement and a lack of a positive attitude among the population about separate waste collection. These data are further confirmed by the sociological study, conducted among households in the city of Pomorie in December 2023, which shows that a mere 9% of households regularly separate their waste.
- Despite the significant quantitative increase in collected packaging waste in 2023, from a qualitative standpoint the share of waste suitable for recycling remains low and does not exceed 25% over the last five years; as of 2023 it is 24%. These facts highlight the need for

implementation of the planned activities in HA2WASTE for active information, increase in the knowledge and engagement of the population regarding proper at-home sorting of waste and which packaging waste is recyclable and may be disposed of in the colour containers and which should not.

- Besides the packaging waste, waste from paper and cardboard, glass and plastic is collected separately through annual campaigns, organized by the municipality, which is insufficient for increasing their overall quantity and reaching the targets set in the Waste Management Act.
- The share of waste disposed of in the landfill is very large in comparison to the targets for the coming years, set forth in the legislation; it takes a significant financial resource from the municipal budget to pay the high fees for disposal, which in turn affects the amount of the municipal waste fee.

Finance

- The total waste management expenditure of municipality Pomorie increase annually. The main reasons for the increase in recent years are the high annual inflation and increased fuel prices, the actions and investments undertaken by the municipality to improve the efficiency of the waste collection and treatment systems and the related costs for repayment of loans and for purchase of containers for the preliminary storage of municipal waste, as well as the increased amount of deductions under Art. 64 of the WMA for waste disposal at the regional landfill (given the high quantity of municipal waste sent to the landfill from municipality Pomorie).
- Revenues from the municipal waste fee are increasing, but the growth rate is slower than the increase in the annual amount of waste management expenditures. In 2022 and 2023, the municipality of Pomorie co-finances the costs of waste management with a transitional balance of the revenues from the fee in the previous years.
- The municipality regularly uses funds from deductions under Art. 64 of the WMA, and by the end of the second quarter of 2023, the funds available on the accounts of RIEW-Burgas are about to be exhausted.

Capacity

- Municipality Pomorie has the capacity and fully fulfils legal obligations for elaboration of regulatory and programming documents in the field of waste. Adopted planning and legislative documents meet the requirement set forth in the WMA and the secondary legislation on its application. In relation to the introduction of the new waste collection scheme within the framework of the current project, Ordinance №9 on waste management would have to be amended after the pilot testing of the new scheme.
- The municipal administration regularly prepares annual reports on the implementation of the Waste Management Programme of Pomorie municipality, which are then approved by the Municipal Council and published on the website of the municipality.

- With the purpose of improving services provision and cost optimization, in 2022 the municipality established public municipal enterprise “Chistota Pomorie” EOOD with 100% capital of Pomorie municipality. The functions for waste management are allocated between the municipal administration and ME “Chistota Pomorie”, while some activities for separate collection of waste have also been assigned to external contractors.
- In the process of designing the new system for door-to-door waste collection, the municipality needs to conduct an analysis of the needed human resources, both at “Chistota Pomorie” EOOD and at the municipal administration and, in necessary, to optimize their number.
- The municipality does not have an integrated information system for waste management. It is extremely important to introduce such a system (or database) that covers all waste streams and enables monitoring and analyses of waste amounts. Simultaneously with the introduction, an employee should be designated, whose job description should include the duties related to the collection, processing and analysis of waste data. The responsibilities of other units of the municipal administration and of "Chistota Pomorie" EOOD for providing data should be defined as well.
- Pomorie municipality regularly provides current information to the general public about waste-related municipal documents and activities. However, informational or educational publications about waste prevention and separate collection are missing.

Recommendations

- When planning the new waste collection scheme, the characteristics of households as waste generators should be considered;
- Tourism is of structure-determining significance for the economy of Pomorie and the quantity of waste, generated during the summer season, comprises half of total collected waste. This fact requires careful planning of the infrastructure and the schedules for door-to-door waste collection, and specific measures for provision of information to the tourists about the waste collection scheme applied in the city of Pomorie to ensure adherence to it.
- The municipality may consider to introduce more flexible working hours of the Centre for disposal of separately collected waste by the households. It is also necessary to promote more actively the Centre among residents and the possibility of handing over separately collected waste.
- Given the high percentage of fine fraction in the morphological composition of mixed municipal waste (dirt, pebbles, ash, slag, small biodegradable waste, cinders and others), prior to the introduction of door-to-door waste collection, municipality Pomorie needs to provide special bins for disposal of ash and cinders (from heating devices) and organize separate collection of construction waste from households’ small renovation activities.

- During the introduction of the scheme for separate collection of biodegradable waste, it is necessary to guarantee the application of clear mechanisms for reporting of the waste quantities coming into the anaerobic installation.
- It is recommended to adopt amendments to Ordinance No. 9 for management of waste activities in municipality Pomorie and internal rules and procedures for the operations of “Chistota Pomorie” EOOD.