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Municipality of
Rahovec/Orahovac



LOCAL WASTE MANAGEMENT PLAN 2016-2021

**LOCAL WASTE
MANAGEMENT PLAN
2016-2021**

Acknowledgments

This plan has been prepared by the working group of the Municipality of Rahovec/Orahovac, in close cooperation with the coordination group and with the support of professional consultants and DEMOS project officers.

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Abbreviations

LWMP	Local Waste Management Plan
RWCC	Regional Waste Collection Company
RAE	Roma, Ashkali and Egyptian community
WM	Waste Management
PC	Public Company
MA	Municipal Assembly
SEA	Strategic Environmental Assessment
KAS	Kosovo Agency of Statistics
POE	Publicly Owned Enterprise

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1. CURRENT SITUATION

Based on the last census 2011, the municipality of Rahovec/Orahovac has a total of 56.208 inhabitants. The spread of population in the municipality is more in rural areas rather than urban areas, with 15.892 inhabitants in the urban area (28.7%) and 40.316 (71.3%) in rural areas.

Table 1: Number of population and growth rate

Year	Total	Urban	Rural
2011	56,208	15,892	40,316
2012	56,854	16,075	40,780
2013	57,508	16,260	41,249
2014	58,170	16,447	41,723
2015	58,839	16,636	42,203
2016	59,515	16,827	42,688
2017	60,200	17,021	43,179
2018	60,892	17,216	43,676
2019	61,592	17,414	44,178
2020	62,300	17,615	44,686
2021	63,010	17,821	45,194

Source: KAS, 2011

Table 1 indicates the trend of population growth in Rahovec/Orahovac municipality, this trend is not expected to mark a major growth in the next five years.

Based on estimates, young age people are dominant in municipality of Rahovec/Orahovac, both in urban and rural areas. Whereas the dominant age group of population is the category 19-44 years old.

If a deeper analysis of the population structure in Municipality of Rahovec/Orahovac takes place, it can be seen that the population is spread almost equally in all areas. A greater number of residents (71.3%) can be observed in rural areas of the municipality, namely at distances of 3-9 km. The explanation about the concentration is provided in the table below. Table 1 indicates the trend of population growth in Rahovec/Orahovac municipality, this trend is not expected to mark a major growth in the next five years.

Population	0-3 km	3-6 km	6-9 km	9-12 km	12-40 km	Total	In %
Urban	15,892	-	-	-	-	15,892	28.3%
Pre-Urban	-	4,205	-	-	-	4,205	7.5%
Rural	-	-	7,023	14,647	-	21,670	38.6%
Remote area	-	-	-	-	14,441	14,441	25.7%
Total	15,892	4,205	7,023	14,647	14,441	56,208	100.0%

1.1. Waste management operator

Authorized operators from the municipality of Rahovec/Orahovac, respectively from the Ministry of Environment and Spatial Planning are the Public owned Enterprise “Ekoregjioni”¹ with its unit “Ambienti” which provides services in most of the territory of Rahovec/Orahovac. The share of Municipality of Rahovec/Orahovac in this enterprise is 8%, and besides “Ekoregjioni” in Rahovec/Orahovac operates the private company “Ekodrinia” which also serves to the remaining part of the territory of the municipality. The primary activity of the public operators is to collect and transport the municipal wastes and provide secondary services such as: public spaces management and maintenance, street cleaning, snow removal and maintenance of public green spaces.

The company serves to three customer categories, i.e. households, businesses and institutions. Household customers are divided by the way they receive services: household customers who receive door-to-door service and customers equipped with containers. Businesses are divided into small and medium business that receive service without contracts and large businesses with special service contracts. Some small and medium businesses have door to door service and the rest is equipped with special containers. Businesses which entered into contract are equipped with special containers. Institutions are the third category of customers, as are some small NGO`s, lawyer offices or similar offices, and usually have special contracts and are equipped with special containers.

The waste collection period usually takes place from 07:00 to 14:00.

With regard to procedures and methodology for setting the fees, the company is currently applying the WWRO model (2006) tariffs, amended and approved by the Board of Directors in June 2012, which are still applicable. The current collection mechanism in households and small businesses is applied through cashiers (door to door) and auxiliary cash register, but there are cases that this is done through current accounts from customers. Whereas regarding large businesses and institutions, collection is done through cash register and current accounts.

The total number of customers of the company “Ekoregjioni” - units “Ambienti” and “Ekodrinia” for 2015 and the latest updates in September 2016, was around 9130 and this has changed from month to month according to collections.

The zoning coverage of households and businesses (clients), included in the waste management service according to the companies “Ekoregjioni” and “Ekodrinia”, are as follows:

- Urban Area: which belongs only to Rahovec as a town - 3072 customers and,
- Rural areas: remaining areas and surroundings - 6064 customers.

The Unit “Ambienti” has a total of 41 employees. The other company “Ekodrinia” has 9 employees. Wastes collected from consumers are transferred to final disposal at the landfill site in Landovicë, which is managed by the Kosovo Landfill Management Company (KLMC) - Prishtina. Payment for permanent disposal is done at the sanitary Landfill in Landovica, whereby respective measurements are conducted.

The storage capacity of waste with existing containers is about 25 tonnes. Unit “Ambienti” has 5 compactor trucks, 1 tanker truck, 1 trailer truck, 3 tractors.

“Ekodrinia” owns 3 trucks of 12, 11 and 6 tonne trucks, a mini truck and a tanker truck of 15,000 L.

¹ Which operates in: Prizren, Rahovec, Suharekë, Malishevë and Dragash

1.2. Waste Management

The amount of waste collected per day ranges from 20 to 30 tons, and according to reports of two companies operating in the Municipality of Rahovec/Orahovac, the waste collection service is conducted in all settlements of the municipality, although some of the households refuse to enter agreements with the operators. Despite the 100% coverage, illegal waste disposal and waste disposal are still uncontrolled, “hot spots” of the environmental impacts in this municipality are also identified with special emphasis in the waste sector.

According to the Waste Report, drafted by the Kosovo Environmental Protection Agency (KEPA), published in 2014, the Municipality of Rahovec/Orahovac is supposed to have 3-5 ha of municipal space covered with illegal landfills.

Main reasons for incomplete waste collection are various, such as:

- Low level of awareness among residents;
- Limited capacities of the Publicly Owned Enterprise for waste management;
- Non-payment by a share of service recipients;
- Non-resolution of construction waste (demolition) issue;
- Unsolved issue of animal waste management;
- Low and informal classification and recycling.

Currently, the largest operator is “Ambienti” which according to the records provides primary waste collection service for 66% of the general population, and 100% of the urban area and about 27% in rural areas. While the other operator “Ekodrinia” serves primarily in the rural and remote areas with a total share of 34%.

Despite progress made, there are several categories of waste that represent a challenge for the municipality, particularly construction waste/demolition waste, animal residues, etc.

Construction/demolition waste (inert waste): Due to the lack of adequate landfill for this category of waste, the wastes from construction materials and demolition are disposed everywhere by deteriorating the environmental and aesthetic aspects. Often, uncontrolled disposal of waste causes the creation of illegal landfills and disposal of various wastes from residents and businesses. In addition, there is no link between granting the building permits and the waste disposal monitoring system. Regarding solid waste landfills, the Municipality is in the process of selecting the proper location. The project for constructing solid waste landfill is included in the list of projects foreseen under the Waste Management Plan of Republic of Kosovo, wherein co-funding is foreseen: 40% by the donor; 30% by the Kosovo Budget; and 30% by the Municipality of Rahovec/Orahovac.

Animal residue waste: The management of animal residue waste in the Municipality of Rahovec/Orahovac is not in accordance with relevant provisions, primarily due to the lack of an animal residue treatment plant. In the Municipality of Rahovec/Orahovac, there are 8 subjects involved in production, processing and preservation of meat, out of which 3 are butchers and 5 are slaughterhouses.

With some of these entities, the current operator has service contracts and collects waste, while others dispose waste illegally. Moreover, even animal origin waste collected by the licensed operator is not clear as how it is treated, as the regional landfill does not accept this type of waste on these particular locations.

The Strategy and Plan on Waste Management of the Republic of Kosovo has foreseen funding for the construction of an animal residue waste facility that would regulate the management of such waste at Kosovo level, including the Municipality of Rahovec/Orahovac.

The implementation of such projects that is foreseen to take place during the 2016-2021 planning period would contribute to sustainable municipal waste management.

It is worth pointing out that such landfill is being built and funded by the EU office in Kosovo (in the Municipality of Drenas/Glogovac), where it will be aimed at collecting all animal waste from the entire territory of Kosovo.

By building this landfill, the municipality of Rahovec/Orahovac will also benefit, whereby it will oblige the inhabitants/activities that deal with this activity to deposit such waste in the adequate landfill and not in the wild landfill.

Regarding the hazardous waste, there is no activity in the Municipality of Rahovec/Orahovac that would contribute substantially to increasing the environmental impact of this waste. The treatment of hazardous waste, including industrial-chemical and medical waste, would contribute to improving the environment and minimizing the possibility of contamination of land, municipal waste and underground water resources.

Effective disposal of construction waste and animal residue waste would result in release of load for operators that collect and transport municipal waste. Also, their proper management would avoid the cause for opening wild landfills, as is currently happening.

1.3. Challenges in managing wastes not directly under the municipality's competences

In addition to usual households and businesses waste, which are under the competence of the municipality, there is a significant amount of waste categories disposed in the territory of the municipality, which are not under its direct competence.

Chemical-Industrial Waste: Municipality of Rahovec/Orahovac does not have, in its territory, any landfills identified as industrial-chemical waste "landfill", whereby the amount disposed exceeds 5 tons per landfill, according to the report for "Hotspots" published by the Kosovo Environmental Protection Agency.

Medical waste: In the municipality of Rahovec/Orahovac there is a family medicine centre and 10 ambulances/clinics. Under normal conditions, these centres should treat medical waste separately, taking into account their negative impact on environment and health. Such waste should be

treated through incinerators installed in regional hospitals, where the nearest treatment point in the Municipality of Rahovec/Orahovac this type of waste is the Prizren hospital, but unfortunately the incinerator is currently not working, meaning that waste is thrown into the municipal container, further contaminating municipal waste. On the other hand, according to an interview with the medical staff of these centres, it is said that hazardous medical waste generation is very small, given that many cases requiring hospital treatment are sent to regional hospitals such as the one in Gjakovë/Đakovica or Prizren.

Electronic waste: Similar to other parts of entire territory of Kosovo, the Municipality of Rahovec/Orahovac provides no special treatment of such waste, although they are not under the competences of the Municipality.

1.4. Current measures for reducing the amount of waste

Waste generation prevention measures in the best case scenario are at modest levels and without impact on reducing the amount of waste generation. Also, the Municipality has no competences in terms of managing wastes other than solid municipal wastes.

Illegal dumping: Some of the waste ends up in illegal landfills, which according to field evaluations are identified as locations of illegal dumpsites. The Municipality of Rahovec/Orahovac has taken the initiative to rehabilitate these dump sites on surface level several times. The type of waste found in these wild dumping's are mainly municipal and solid waste, however waste originating from gardens, animal waste, old tires, household appliances waste, etc. can also be found.

1.5. National legal framework and policies

Waste management in the Republic of Kosovo is regulated by the legal framework, which is harmonized with the European legislation, namely EU directives and regulations, which govern the waste sector. The main purpose of the waste management legal framework is to avoid and reduce waste generation as much as possible, recycling the usable waste components, prevention of waste's negative impacts on the environment and human health, as well as final disposal of waste in an environmentally acceptable manner.

The legal framework consists of laws and by-laws that regulate waste management. The main law which regulates waste management in details is Law No.04/L-060 on Waste. This law defines and regulates waste planning and management, conditions for waste collection, transportation, handling, storage and disposal, types and classification of waste, responsibilities of legal and natural persons regarding waste management, conditions and procedures of licenses and permits for waste management, penalties for non-compliance with the legal provisions as well as other waste related issues. Article 14 and 15 of the Law No. 04/L-060 on Waste, defines central and local level institutions' responsibilities for waste management. Under the Law No. 04/L-060 on Waste, the municipality has assumed additional responsibilities regarding waste management and administration.

In addition to the abovementioned laws, the Legal Framework for Waste Management also contains a number of other sector laws which indirectly regulate waste management, such as: Law No. 03/L-025 on Environmental Protection, Law No. 03/L-040 on Local Self-Government, Law No. 03/L-087 on Publicly Owned Enterprises, Law No. 04/L-174 on Spatial Planning, Law No. 04/L-045 on Public Private Partnership, etc.

Article 17 of the Law No. 03/L-040 on Local Self-Government, defines waste management as a full and exclusive power of the Municipality. Based on such competences, municipalities have the legal authority to establish structures, mechanisms and stipulate a special budget for the purpose of better and efficient waste sector management.

Law no. 03/L-087 on Publicly Owned Enterprises defines and regulates the ownership of public waste management enterprises, their corporate governance in accordance with international principles and standards. Article 6 of the Law No. 04/L-111 on Publicly-Owned Enterprises enables the establishment of public local enterprises by municipalities. Meanwhile, Articles 4, 5, 6 of Regulation No.02/2013 (on the criteria for the establishment of local publicly owned enterprises and participation of municipalities) define the criteria and procedures for the establishment of public waste management enterprises. Pursuant to Article 5.2 of this Law, the right of the municipality as a shareholder is exercised by the Municipal Shareholder Committee, which consists of: a member appointed by the Mayor, and two other members appointed by the Municipal Assembly. The Municipal Shareholder Committee acts on behalf of the Municipality in accordance with the Law on Business Organizations.

1.5.1. Local legal framework

Based on Law no. 03/L-040 on Local Self-Government, Law No. 04/L-060 on Waste, Law no. 03/L-087 on Publicly Owned Enterprises as well as other sectoral laws, the municipality is obliged to establish a local legal framework for efficient waste management in its territory. The local legal framework consists of municipal regulations, guidelines, policies, different regulators, and decisions that regulate the waste management sector.

Under the local legal framework, the municipality has approved:

- Regulation on amending the Regulation No. 4103 on Waste Management, dated 09.12.2015;
- Regulation No. 239 on Waste Management in the territory of the Municipality of Rahovec/Orahovac, dated 30.01.2015;
- Regulation No. 1676 on Public Services and Emergency dated 30.03.2012.

For the purpose of supplementing and improving the local legal framework, the following will be adopted:

- Regulation on funding the municipal competent sector and standards for waste management services;
- Regulation on financing and the method of using financial means for waste management activities.

2. WASTE MANAGEMENT PLANNING

2.1. Scope of the plan

The Local Waste Management Plan is a document that organizes waste management process at municipality level, defining the path and priorities, as well as the dynamics and method of solving problems in accordance with national and EU legislation in terms of waste management and environmental protection in general. In addition to being a legal obligation, LWMP aims to identify and implement better waste management alternatives.

The purpose of the plan is to establish a long-term sustainable waste management system at municipality level aiming to improve quality of life and environmental protection, rational use of resources, and to respect modern waste management principles, by employing in a coordinated manner all waste management acts.

Under the LWMP shall be performed an analysis of current waste treatment capacities as well as an analysis of existing waste management capacities, which will serve to review the need for further developments in this field. Another important goal of LWMP is to address many of the open issues which determine the establishment of a completely new waste management system that is based on suggestions provided by the Strategy of the Republic of Kosovo on Waste Management, Law on Waste, European standards and legal measures affecting this field.

2.2. General LWMP Goals

LWMP presents a basic document that organizes waste management process at municipality level. The Municipality of Rahovec/Orahovac is determined to improve waste management condition and in this regard has set specific objectives that are an integral part of this plan. They include: extending services, preventing, minimizing and recycling waste, and eliminating waste disposal at illegal hotspots or landfills, and their dumping at the specified location. The objectives are divided into two phases, respectively in the period 2016-2018 and 2018-2021.

Through the waste management plan, the Municipality aims to achieve:

1. Clean settlements, healthy environments for residents;
2. Promotion and support of waste treatment activities;
3. Inclusion of the entire area through affordable tariffs and increased collection;
4. Define waste management targets at municipal level in harmony with the national legislature;
5. Define the optimal waste management system;
6. Define overall financial investments and investments in plan priorities that need to be implemented immediately.

Objectives

1. Establishment of an institutional waste management system;
2. Establishment of a financial WM system;
3. Creating a contracting process for waste collection services;
4. Promotion of waste minimization, including the closure of illegal landfills;
5. Support for the re-organization of the community;
6. Development of pilot projects in order to implement the 3R concept (Recycling, Reduction and Reuse).

2.3. Targets

The plan aims to manage household, businesses and municipal waste.

- The coverage rate of the collection service implies the rate of population served versus the general population;
- Collection rate means the amount of waste collected versus the total amount generated;
- The illegal dumping rate means the rate of illegally disposed waste including improper disposal within the non-service area versus the total amount of waste generated;
- The final disposal rate is the rate of waste deposited in licensed and unlicensed landfills (illegal dumping) versus the total amount of waste generated;
- Recycling rate means the amount of waste recycled versus the total amount generated.

2.4. Stages of implementation of 2016-2021 plan

The aforementioned vision will be achieved step by step systematically. The target year of Waste Management Plan in the Municipality of Rahovec is from 2016 to 2021. This period is divided into two stages, as follows.

The implementation of waste management plan 2016-2021 is based on two stages:

- **Stage 1:** 2016 - 2018 - Establishment of a sound waste management system, meaning that within this period the waste management sector will be created in order to create a database, which would serve to the efficient waste management and the likelihood for waste collection in the Municipality to be implemented.
- **Stage 2 of:** 2018 - 2021 - Creation of a new collection system, which implies that during this period the aim is to achieve a new waste collection system by analyzing and evaluating the analysing current state of human resources and equipment as the level of service will increase in order to also increase the level of collection.

Based on the goals set out in these two stages, the five-year WM plan can be modified by the end of 2018, based on the actual performance progress in the first stage.

The implementation of the plan in the planned period will be modified, monitored and adjusted by the end of 2018 based on the achievements of the results set out in the first stage.

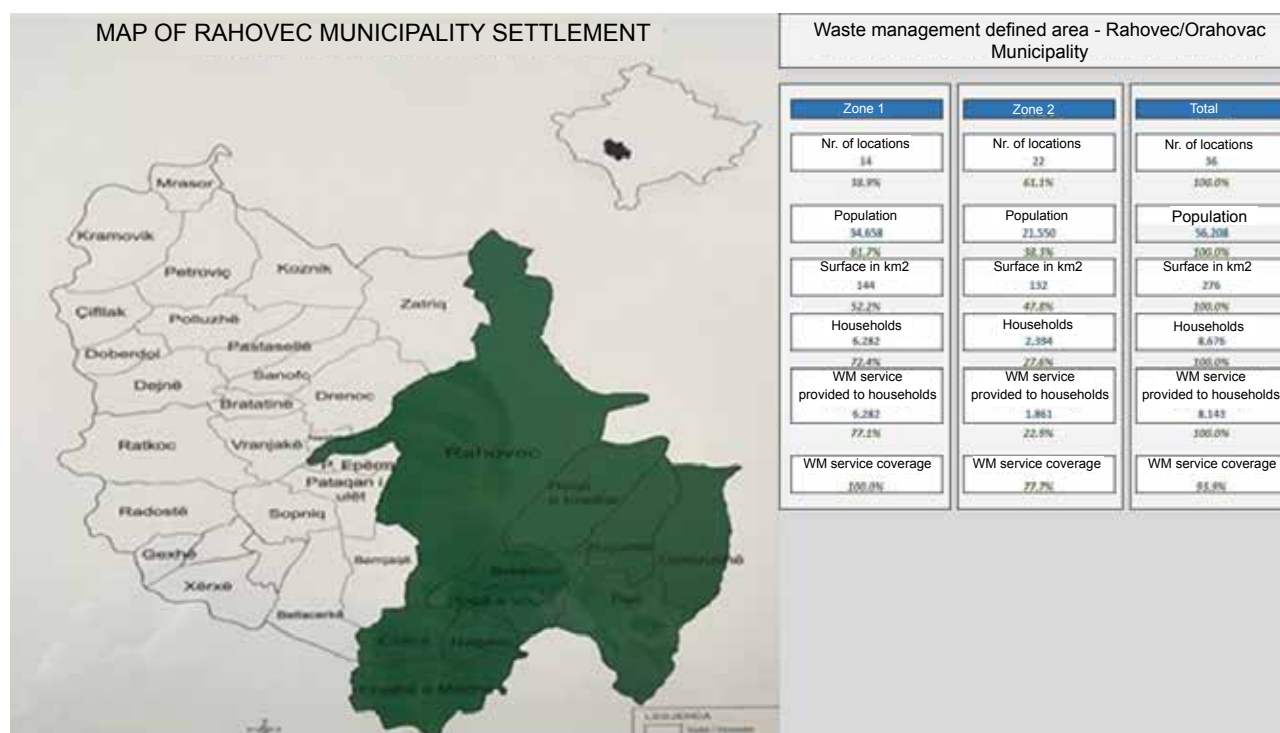
2.5. Establishment of the Waste Management Sector

The Municipality shall establish the Waste Management Sector, as part of the Public Services Directory, determine the collection method of funds and set tariffs, and will consider the possibility of establishing a profit centre (recycling).

In order to implement the WM Plan, the Municipality of Rahovec/Orahovac shall strengthen the Waste Management Sector established within the Public Services Directory, which will have the following responsibilities:

- Cooperate with relevant stakeholders to implement the waste management plan;
- Compile, in cooperation with relevant stakeholders, the operational plans for waste collection and treatment, by setting and revitalizing the operation areas;
- Compile, in cooperation with the relevant stakeholders, the fund collection plan;
- In cooperation with relevant stakeholders, will set special conditions and criteria for operators involved in collection, transportation and treatment of waste, and will organize the monitoring and evaluation of these companies;
- In cooperation with relevant stakeholders, will develop procedures and activities for monitoring activities that reduce the amount of illegal waste, develop and manage plans for the elimination of illegal dumpsites;
- In cooperation with relevant stakeholders, develop pilot projects that aim at improving the performance of the Municipality in the field of waste management;
- During 2017, through the tendering process, the municipality will select the waste collection and treatment operator in the areas specified by the municipality.

Figure 1. Territory zoning of Rahovec/Orahovac Municipality



For the purpose of organizing waste management, the territory zoning system has been established.

Zoning of the territory is based on the following criteria:

- Proportional spreading of direction zones and operating lines;
- Distribution based on the number of inhabitants;
- Distribution based on the number of households;
- Distribution based on the number of facilities.

The target area for the Local Waste Management Plan is the entire administrative area of the Municipality of Rahovec/Orahovac. Areas targeted to be reached by the waste collection services within the Local Waste Management Plan are some households of the 2nd zone villages (light-coloured), aiming to include 533 additional households into the system, which in one way or another were not part of the waste management system, village details and waste generation can be seen in the table below along with the aim for coverage during the implementation of this plan:

Table 3: Settlements that do not have full WM services

Settlements	Zone	Distance KM	Range Km.	Household	Households/Covered	Households/not covered	Generated waste per year-tons	Unmanaged waste
Nushpal/Naspale	Zona 2	7	6-9	32	22	10	40	13
Senoc/Sanovac	Zona 2	7	6-9	101	69	32	125	39
Polluzhë/Poluza	Zona 2	11	9-12	162	60	102	147	93
Gexhë/Gede	Zona 2	12	9-12	165	68	97	120	71
Kaznik/Koznik	Zona 2	13	12-40	24	8	16	24	16
Bratotin	Zona 2	21	12-40	58	24	34	58	34
Dabidol/Dobri Dol	Zona 2	21	12-40	138	36	102	117	86
Sarosh/Saros	Zona 2	23	12-40	2	1	1	1	0
Petković/Petkovic	Zona 2	28	12-40	183	56	127	107	74
Mrasor	Zona 2	32	12-40	28	15	13	28	13
Total				892	359	533		439

Thus, the aim is to increase coverage for villages of this area and to add 439 tons of annual waste to the waste management system, as can be seen from the table below.

Table 4: Implementation of WM – Main categories for period of 2016-2021

Category	2016	2017	2018	2019	2020	2021	Total
Households	-	393	140	-	-	-	533
No. of locations	-	8	2	-	-	-	10
Number of residents	-	2,116	140	-	-	-	2,256
Generated waste (in tons)	-	352	87	-	-	-	439

Table 5: Implementation of WM - Households

Area	Year/Implementation	2016	2017	2018	2019	2020	2021	Total
Nushpal/ Naspale	2017		10					10
Senoc/Senovac	2017		32					32
Polluzhë/Poluza	2017		102					102
Gexhë/Gede	2017		97					97
Kaznik/Koznik	2017		16					16
Bratotin	2017		34					34
Dabidol/Dobri Dol	2017		102					102
Sarosh/Saros	2017		1					1
Petković/Petkovic	2018			127				127
Mrasor	2018			13				13
Total		-	393	140	-	-		533

2.6. Establishment of the financial waste management system

For expectations to be satisfactory, in terms of revenues from waste tax and tariffs, as planned to be presented by the end of 2016, it is very important to establish a proper waste management system, therefore, the Municipality of Rahovec/Orahovac should implement the budget planning activities. These planning activities will include the creation of a budget line for implementing the revenues from tax and tariff for waste collection service, as well as the budget lines to implement the contracting of the waste management service. On the other hand, managing the collected tax is very important, and this would create an easily operated financial system in cooperation with the Finance Department. For establishing a financial system, the Municipality should be equipped with software that will be installed within the Public Services Department and connected to the Finance Department.

Until the full implementation of laws in force in the short-term period (during 2017-2018), the Municipality will contract, through public calls, the waste collection and treatment operators with the right to collect service tariff in previously determined areas for collection activities during the short-term period, which is in accordance with the areas presented in the tables.

2.7. Improvement of waste collection system

During 2017-2021, the Municipality of Rahovec/Orahovac plans to manage municipal/solid waste pursuant to Law on Waste, therefore, during this period, the Municipality of Rahovec/Orahovac will ensure the required budget through the waste tax that will be collected from inhabitants and small businesses, which dispose their waste together with household waste. This will be rightfully entrusted to the municipal waste collection and transportation companies licensed by MESP. Such waste management, by means of collecting it from the inhabitants, currently cannot be done by the Municipality, and if the special code is not allowed by the Ministry of Finance (the same problem also in other municipalities), the only way is to continue with the current system, where public/private companies perform collection for service they deliver.

Therefore, the Municipality of Rahovec/Orahovac is looking for a *modus operandi* to abolish the current waste collection system by making a plan for operators to make contracting based on areas, so that the entire territory of the Municipality is covered by waste collection services, including road cleaning and maintenance of greenery.

Division of areas will be done by trying to make the best possible division between the operators. The Municipality, together with waste management companies, agreed that waste collection in the Municipality should be divided into two areas, as will be discussed in more details in the following chapters.

3. FINANCIAL PLAN 2016-2021

The Financial Plan 2016-2021 is based on the current state of the environment, the current organization of social situation and financial capacity factors impact in waste management in the Municipality of Rahovec/Orahovac.

In order to develop the Financial Plan 2016-2021, information sources of the public company Eko-regjioni - NJP "Ambienti" and the private company "Ekodrinia" have been used, more specifically, the operational data and financial information of 2015.

Information from (the last) census was used to get familiarised with features of the area and the distribution of households. Based on the processed information, a system for waste estimation as well as population distribution and density was established.

Based on the measurements of distance and distribution of households, a methodology was developed for assessing population coverage with waste management services on one hand, and estimation of waste based on categories of settlements on the other. Waste generation is based on the types of localities that generate different waste, both in terms of quantity and content, and which also have management financial effects, depending on the estimated distances that are expressed in the financial costs of waste management. For the purpose of compiling LWMP, the localities are divided into the following four categories of settlements:

- Urban
- Suburban
- Rural
- Remote rural

Designing the amount of waste generated is based on the waste estimation model based on the daily generated waste per person, depending on the type of settlements:

- | | | | |
|------------|---------|----------------|---------|
| • Urban | 0.62 kg | • Rural | 0.50 kg |
| • Suburban | 0.62 kg | • Remote rural | 0.40 kg |

3.1. Main assumptions in the Financial Plan

In order to develop the Waste Management Financial Plan, a number of assumptions are required based on the observed situation in the waste management sector and financial outcomes during 2015/2016. Assumptions are based on objectives of the Municipality of Rahovec/Orahovac for providing quality services to citizens and businesses, without taking into consideration the new potential forms of participation of other economic operators in waste management.

Main assumptions of the Financial Plan are the following:

- The public company “Ekoregjioni” - NJP “Ambienti” and the private company “Ekodrinia” had both positive results doing business during 2015/2016;
- Companies operating in the WM sector have an increase of customer base, collection rate and amount of waste collected;
- Investments will be made based on short-term needs and capital investments aimed at achieving the objectives set by the Municipality of Rahovec/Orahovac;
- Investment will be financed from revenue generation and from the municipal budget. Sources of investment support are supposed to be achievable based on planned investments;
- Waste management costs will be reduced due to new investments, vehicle modernization, timetable and route scheduling, and due to the modern waste management approach;
- The collection rate is planned to increase in all categories of clients (households, small businesses, large businesses as well as institutions) at reasonable rates;
- The rate of waste collection generated is expected to increase during the planning period.

Table 6: Inclusion of households in WM system for 2016-2021 (households not covered with services during 2015)

Category	2016	2017	2018	2019	2020	2021	Total
Households	-	393	140	-	-	-	533
No. of localities	-	8	2	-	-	-	10
Number of inhabitants	-	2,116	140	-	-	-	2,256
Generated waste (in tons)	-	352	87	-	-	-	439

3.2. Required new capital investments

The planned investments are based on four types of investments, identified as necessary for achieving long-term objectives in the WM sector, as follows:

- WM equipment;
- Transportation equipment and garage;
- Public awareness;
- Waste separation.

The WM sector has good service coverage, with 93% of households covered by services. Operators are equipped with waste management equipment at reasonable levels, and there is no special need for capital investment in equipment.

The company “Ekoregjioni” operates at an inadequate location for conducting such activity, a location which does not meet the necessary conditions for the activities, consequently, it is necessary to deploy the garages and administration at an appropriate location for conducting the activity.

Investments in WM equipment: are based on the need for replacing overused containers and covering the new sites points with new containers. Investments in containers for households that are not planned in the WM system should be included in the WM system. The value of investments in this category for the period of the 5 year plan is EUR 35,000, expressed in percentage from the total investment with 26.0%.

Investment for transportation equipment & garage: are investments in deployment of garages and administration at a location appropriate for operation. Investments consist of the investment costs of infrastructure and construction works. The value of investments in this category for the period of the plan is EUR 14,400, expressed in percentage from the total investment with 10.7%.

Investment on public awareness: are investments planned for the purpose of raising awareness on keeping the environment clean in various forms through promotional activities for different groups of citizens. The value of investments in this category for the period of the plan is EUR 35.000, expressed in percentage from the total investment with 26.0%.

Investment in waste separation: are investments made from the municipal budget in order to enable waste collection and separation. Investments are oriented to create conditions on waste separation at source. The value of investments in this category for the period of the plan is EUR 50,000, expressed in percentage from the total investment with 37.2%.

This category of investments is of particular interest as they:

- enable service delivery to a new category of clients who have so far not been offered services;
- have positive impact on the environment in general;
- reduce waste management costs for the amount of recyclable waste (collection, disposal, transportation, etc.);
- provide opportunities for social categories endangered to generate income for survival.

Table 7: Investments by main categories for the period 2016-2021

No.	Category	2017	2018	2019	2020	2021	Total	In %
I.	WM equipment	-	35,000	-	-	-	35,000	26.0%
II.	Garage	-	8,600	5,800	-	-	14,400	10.7%
III.	Public awareness	7,000	7,000	7,000	7,000	7,000	35,000	26.0%
IV.	Waste separation	-	20,000	20,000	10,000	-	50,000	37.2%
	Total	7,000	70,600	32,800	17,000	7,000	134,400	100.0%
	<i>In %</i>	<i>5.21%</i>	<i>52.53%</i>	<i>24.40%</i>	<i>12.65%</i>	<i>5.21%</i>	<i>100.00%</i>	

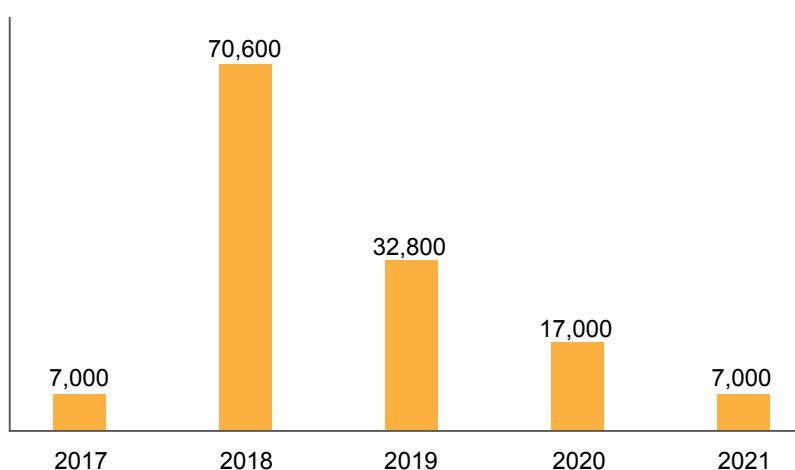


Figure 2: Investment for period 2016-2021

Planned investments depend on time and value of investments which are divided into two investing periods:

- Period 2017/2018 in the amount of EUR 77,600 (expressed in percentage, 57.74% of total investment);
- Period 2019/2021 in the amount of EUR 56,800 (expressed in percentage, 42.26% of total investments).

Table 8: Investments by two investment periods - for the period 2016-2021

No.	Category	2017/2018	2019/2021	Total	In %
I.	WM equipment	35,000	-	35,000	26.0%
II.	Transportation equipment & garage	8,600	5,800	14,400	10.7%
III.	Public awareness	14,000	21,000	35,000	26.0%
IV.	Waste separation	20,000	30,000	50,000	37.2%
	Total	77,600	56,800	134,400	100.0%
	<i>In %</i>	<i>57.74%</i>	<i>42.26%</i>	<i>100.00%</i>	

Investments will enable the achievement of objectives set under the strategy on waste management by the Municipality of Rahovec/Orahovac and will also enable an increase in the quality of services. Such investments will also have a direct impact on overall costs, reducing them due to the use of new equipment which will increase waste management efficiency.

3.3. Financial analysis of WM sector in 2016

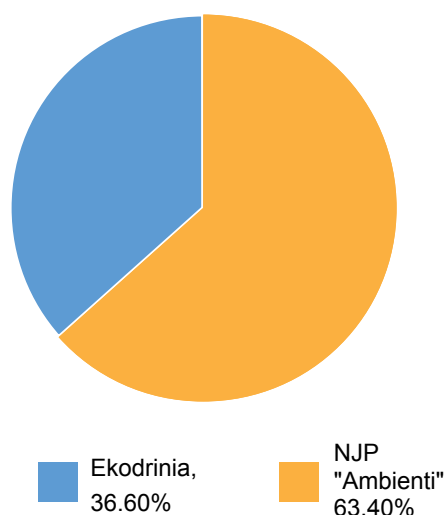
The WM sector is based on services provided by two companies covering the area with services in a percentage of 93.5% of the total number of households in the municipality. The number of clients covered in the WM system is 7,697 households. According to the last census, the Municipality of Rahovec/Orahovac is home of 8,230 registered households and a population of 56,208 inhabitants. The number of WM services coverage is 7,697 households, expressed in percentage, 93.5% of the total number of households. 533 households are not covered in the WM system, expressed in percentage, 6.5% of the total number of households.

3.3.1. Revenues of WM sector in 2015

Revenues of the WM sector for 2015 amounted to 354,486 Euro. Participation in the WM service market is shared between two operators in unequal participation. The operator “Ekorergjioni” - NJP “Ambienti” participates with 63.4% (224,838 Euro), while “Ekodrinia” participates with 36.6% (129,648 Euro)

Table 9: Revenues of the WM sector for 2015

WM companies	Tota	In %
NJP “Ambienti”	224,838	63.4%
Ekodrinia	129,648	36.6%
Total	354,486	100.0%



The sector's revenue for 2015 has seasonal fluctuations, depending on how much the area is impacted due to migration in the summer season and the increase of the number of inhabitants coming from diaspora. The experience from the past shows that the Municipality has an increase in generating household waste during the summer period June-September, an increase which expressed in percentage is 15%-20% of the annual average of generation. During this time, there is also an increase in waste collection, which has an impact on the increase of revenues as well collection of charges from WM service delivery. Revenue growth was noted at the operator “Ekoregjioni” - NJP “Ambienti” while the operator “Ekodrinia” has reported unchanged revenues.

Table 10: Revenues of the WM sector for 2015

Months	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
NJP "Ambienti"	18,128	17,875	18,140	18,190	18,375	18,835	19,465	19,703	19,442	18,703	19,227	18,755	224,838
Ekodrinia	10,804	10,804	10,804	10,804	10,804	10,804	10,804	10,804	10,804	10,804	10,804	10,804	129,648
Total Sektori	28,932	28,679	28,944	28,994	29,179	29,639	30,269	30,507	30,246	29,507	30,031	29,559	354,486

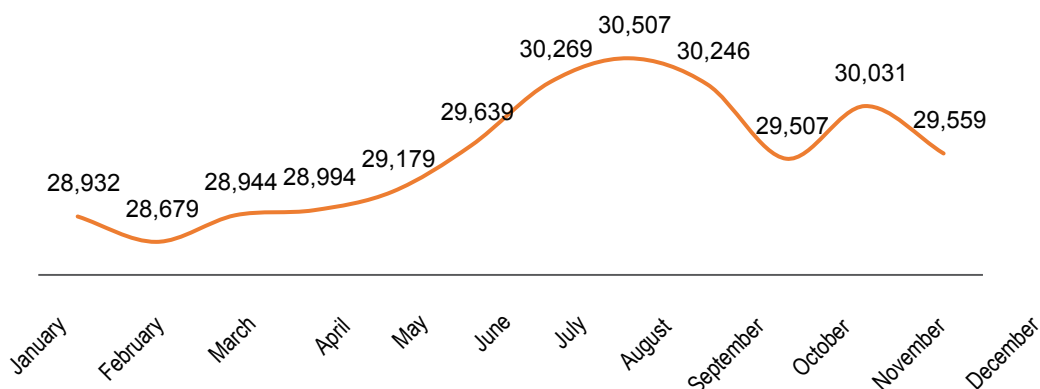


Figure 3: Revenues of the WM sector for 2015

3.3.2. Collection of charges in the WM sector for 2015

Revenue collection in the WM sector is the determining indicator of financial performance which affects the operators business as well as the quality of services. Collection in this sector is at a rate of 64.9%, which is satisfactory at country level. Revenue collection of operator "Ekoregjioni" – NJP "Ambienti" is 74.2%, which is significantly higher compared to the second operator "Ekodrinia" with 48.7%. The primary objective of WM plan is to increase the collection rate by means of measures and actions in the sector, to enable a sound financial and legal environment in order to raise awareness of the fulfilment of obligations for the WM services provided.

Table 11: Revenue collection rate for 2015

WM companies	Invoicing	Collection	Collection %
NJP "Ambienti"	224,838	166,935	74.2%
Ekodrinia	129,648	63,128	48.7%
Sector	354,486	230,063	64.9%

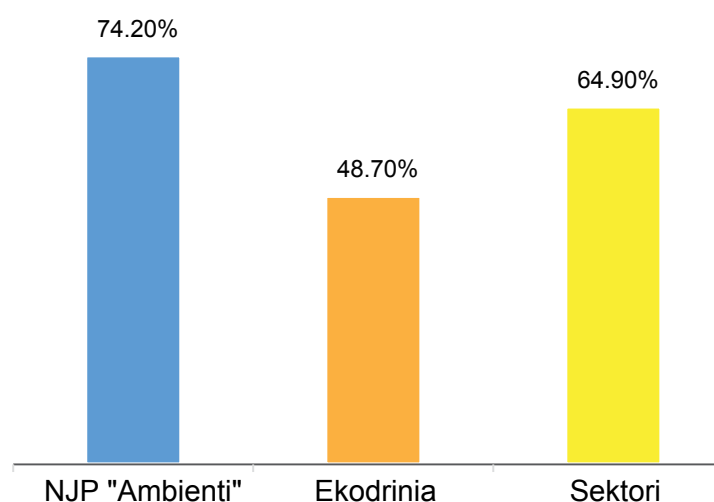


Figure 4: Revenue collection rate for 2015

3.3.3. Clients in the WM sector for 2015

WM sector has 7,697 household clients segmented for two current operators at different distances from the urban centre. Operator “Ekoregjioni” - NJP “Ambienti” is focused in the urban and rural areas with a full coverage rate, while the operator “Ekodrinia” covers rural areas. Distance of clients has a direct impact on waste management costs and consequently on the profitability of operators.

Table 12: Households distributed away from the centre based on operator in the WM sector

Category	0-3	3-6	6-9	9-12	12-40	Total
NJP “Ambienti”	3,072	631	655	1,136	248	5,742
Ekodrinia	-	161	395	734	1,111	2,401
Total	3,072	792	1,050	1,870	1,359	8,143
	37.7%	9.7%	12.9%	23.0%	16.7%	100.0%
Category	0-3	3-6	6-9	9-12	12-40	Total
NJP “Ambienti”	100%	80%	62%	61%	18%	71%
Ekodrinia	0%	20%	38%	39%	82%	29%

3.3.4. Waste treatment for 2015

Household waste treatment by operators in the WM sector for 2015 is 8,042 tons; the monthly average of treated (collected) waste is 670 tons.

The ratio of waste treatment participation for 2015 between operators is as follows: “Ekoregjioni” - NJP “Ambienti” with 64.7% (5,200 tons of waste), while the private operator “Ekodrinia” with 34% (2,842 tons of waste).

The treatment of collected waste is also expressed by effects of season on the increase of treated waste. Increase of treated waste marks an increase in the period June-September due to the increase in the number of inhabitants during this period.

Table 13: Ratio of participation in waste treatment for 2015

Month	NJP "Ambienti"	Ekodrina	Total	NJP "Ambienti" in %	Ekodrina in %
January	433	228	662	65.5%	34.5%
February	433	184	618	70.2%	29.8%
March	433	196	630	68.8%	31.2%
April	433	205	638	67.9%	32.1%
May	433	199	632	68.6%	31.4%
June	433	181	615	70.5%	29.5%
July	433	260	693	62.5%	37.5%
August	433	358	791	54.8%	45.2%
September	433	310	744	58.3%	41.7%
October	433	258	692	62.7%	37.3%
November	433	240	674	64.3%	35.7%
December	433	223	656	66.0%	34.0%
Total	5,200	2,842	8,042	64.7%	35.3%

Source: The data are provided by companies

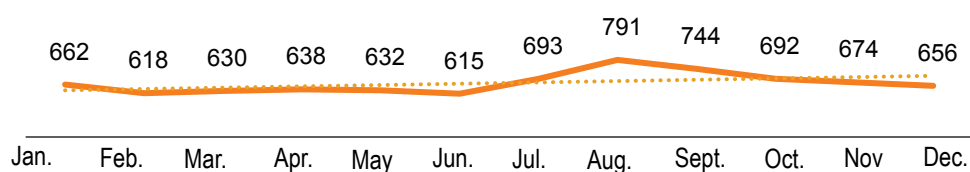


Figure 5: Ratio of participation in waste treatment for 2015

The estimation of season's impact on waste treatment based on the deviation of average monthly quantities (670 tons) from the monthly amount of waste treated by operators is expressed in July-November, especially in June-August where waste mark a great increase.

Table 14: Estimation of the waste treatment season for 2016

Monthly average of waste			670 tons
Month	Total	Dif. from average at value	Dif. from average in %
January	662	-8	-1.3%
February	618	-53	-7.9%
March	630	-41	-6.1%
April	638	-32	-4.8%
May	632	-38	-5.7%
June	615	-55	-8.3%
July	693	23	3.4%
August	791	121	18.0%
September	744	74	11.0%
October	692	21	3.2%
November	674	4	0.5%
December	656	-14	-2.1%
Total	8,042		

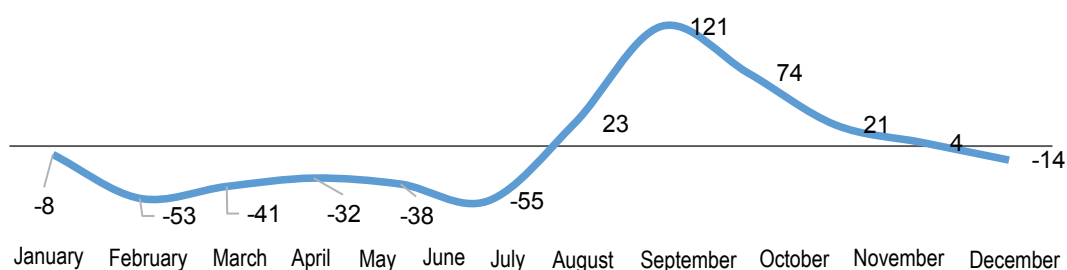


Figure 6: Calculation of the waste treatment season for 2016

With the application of the model, the estimated amount of waste per year is 10.611 tonnes of waste. By comparing the amount of waste treated to those estimated waste, it results that at annually 2,569 tonnes or 24.2% of wastes are not treated, which are deposited in different locations and forms.

Table 15: Ratio between estimated waste and treated waste for 2015

Months	Estimated	Treated	Difference
January	873	662	211
February	815	618	197
March	831	630	201
April	842	638	204
May	834	632	202
June	811	615	196
July	914	693	221
August	1,043	791	253
September	981	744	238
October	913	692	221
November	889	674	215
December	866	656	210
Total	10,611	8,042	2,569

3.4. LWMP financial implementation for 2016-2021

The main objective of the plan is the full coverage of WM service area in the plan period. In 2016, there are 10 (ten) localities which are partially covered by WM service:

- Households 533
- Number of localities 10
- Number of inhabitants 2,256
- Generated waste (in tons) 439

Table 16: Localities partially covered by WM services in 2016

Area	Area	Distance KM	Range Km.	No. of inhabitants	Households	Households / Covered	Households / Uncovered	Generated waste per year - Ton	Unmanaged waste.	Coverage coefficient in%	Non-coverage coefficient in%
Nushpal/Našpale	Area 2	7	6-9	220	32	22	10	40	13	68.3%	31.7%
Senoc/Sanovac	Area 2	7	6-9	687	101	69	32	125	39	68.6%	31.4%
Polluzhë/Poluža	Area 2	11	9-12	808	162	60	102	147	93	37.1%	62.9%
Gexhë/Gede	Area 2	12	9-12	660	165	68	97	120	71	41.2%	58.8%
Kaznik/Koznik	Area 2	13	12-40	164	24	8	16	24	16	33.3%	66.7%
Bratotin	Area 2	21	12-40	396	58	24	34	58	34	41.4%	58.6%
Dobidol/Dobri Dol	Area 2	21	12-40	799	138	36	102	117	86	26.1%	73.9%
Sarosh/Saroš	Area 2	23	12-40	6	2	1	1	1	0	50.0%	50.0%
Petkoviq/Petkovic	Area 2	28	12-40	731	183	56	127	107	74	30.6%	69.4%
Mrasor	Area 2	32	12-40	191	28	15	13	28	13	53.6%	46.4%
Total				4,662	892	359	533		439	40.3%	59.7%

Table 17: Involvement of households in the WM system for 2017-2021

Category	2016	2017	2018	2019	2020	2021	Total
Households	-	393	140	-	-	-	533
Number of localities	-	8	2	-	-	-	10
Number of inhabitants	-	2,116	140	-	-	-	2,256
Generated waste (in tons)	-	352	87	-	-	-	439

Table 18: Revenue calculation – WM implementation 2016 -2021

Category	2016	2017	2018
Households	-	393	140
Estimated revenues (fee: 4.5 Euros) per year	-	21,232	7,545
Exempt from payment	20.0%	20.0%	20.0%
Projected revenues	-	16,986	6,036
Annual revenues	-	16,986	6,036
Total revenues (Compulsory)	-	16,986	23,021

4. STRATEGIC ENVIRONMENTAL ASSESSMENT

The Strategic Environmental Assessment (SEA) is a systematic process for assessing the environmental implications of a proposed policy, initiatives of a plan or a program to ensure that they are fully covered and appropriately addressed at the earliest appropriate stage of decision-making, at the same level as the economic and social considerations.²

The main purpose of SEA is to ensure a high-level of environmental protection and contribute to the promotion of a sustainable development. The SEA aims to improve the plan or the program, suggesting new objectives or strategies, and reviewing the proposed and suggested strategies that may be better in terms of environmental protection as well as minimization and prevention of environmental hazards and impacts. SEA as a process should start in the initial stages of the planning process and should be developed in parallel with the plan and fully integrated into it.

The basic principles on which SEA is based are:

- **Principle of sustainable development**, which means the review and inclusion of essential environmental aspects in preparation and approval of certain plans and programs and through confirmation of conditions for preservation of material goods, values of culture and nature, spaces, biological biodiversity, wild plant and animal species and autochthonous ecosystems, respectively the rational utilization of natural resources, contributes to a sustainable development.
- **Principle of integrity**, which requires the implementation of environmental protection policies that are conducted through the adoption of plans and programs, is based on the inclusion of environmental protection conditions, namely the conservation and sustainable use of natural resources and biological biodiversity in cross-sector plans and programs.
- **Principle of prevention**, which implies that every activity should be implemented in such a way that prior to adoption, prevents or reduces the negative impacts of certain plans and programs to the environment, ensures rational use of natural resources and reduces the risk to human health and material goods.
- **The hierarchy and coordination principle**, determines that the impact assessment of plans and programs is carried out at central level for plans or programs drawn at the central and local level and that in the SEA procedure of plans or programs, increasing the degree of transparency in decision-making is ensured by mutual coordination of competent bodies and organizations in the procedure of granting the SEA consent through consultation, respectively notification and giving opinions on those plans or programs.
- **The principle of public information**, which is implemented for the purpose of informing the public of certain plans or programs and their potential impact on the environment and for the purpose of ensuring full transparency during the preparation, issuance and approval of plans or programs, prior to making a decision and after the adoption of plans or programs, the public must have access to information that is relevant with those plans or programs and their modification.

² Sadler and Verheem, 1996

In Kosovo, SEA is regulated by the Law on Strategic Environmental Assessment (Law No. 03/230), which sets out the conditions, form and procedures for implementation of SEA. This Law is in line with the requirements of Strategic Environmental Assessment Directive 2001/42/EC.

The Law on Strategic Environmental Assessment specifies that the SEA procedure consists of:

- Preparation of an SEA report on the significant impacts of the draft of the plan or program (PP): if the plan/program after scanning according to the criteria established by Law has a negative impact on the environment;
- Consultation of relevant bodies and general public on the draft of the Plan or Program and the accompanying report of the SEA;
- Consideration of the SEA report and results of consultation in decision-making;
- Communication of SEA results and inclusion of its results into the relevant Plan or Program.

According to Law No. 03/230, concretely pursuant to Article 3, drafting of SEA report is obligatory for the following Plans and Programs:

- Plans and Programs prepared for spatial planning, city planning, land use, agriculture, forestry, fishery, hunting, energy, industry, mining, traffic, waste management, water management, telecommunications, tourism, which give a frame for future development projects that are subject to EIA under the EIA Law;

On the other hand, taking into account the objectives that this plan aims to achieve, it can be concluded that preparation of a SEA report on Waste Management Plan (LWMP) in the municipality of Rahovec/Orahovac is not necessary and this is in accordance with the abovementioned Article. Point 2 of this Article stresses that "...SEA report is obligatory for plans in the field of ... waste management..." But the second part of the same paragraph states that "...which give a frame for future development projects, which undergoes environmental impact assessment according to the Environmental Impact Assessment Law..."

While Article 5 states:

Article 5 - Determination of need for SEA.

1. The responsible authority shall determine, in a case-by-case examination, in accordance with the criteria in Annex I, whether the plans or programmes referred to in Article 3 paragraph 3 and 4 of this law that are likely to have significant environmental effects and therefore to require SEA.

The working group for the preparation of LWMP, referring to the above mentioned provision, has reviewed LWMP by comparing it with the criteria of Annex 1 of the Law on SEA, from which it is also concluded that LWMP is not expected to have major environmental impacts and as such it is not subject to the SEA procedure.

Waste Management Plan covers:

- Purchase of Waste Management Equipment;
- Transport / Garage;
- Public awareness;
- Waste separation.

Waste Management Plan does not cover:

- Major engineering projects and interventions that affect the environment;
- Construction of landfills;
- Construction of the following infrastructure, such as waste transfer stations or waste treatment plants;
- Other projects, for which environmental impact assessment would be required under the Law.

COMPARATIVE ANALYSIS ACCORDING TO CRITERIA OF ANNEX 1 OF THE LAW ON SEA NO. 03 / L-230, AS WELL AS MUNICIPAL MP ACTIVITIES OF MUNICIPALITY OF RAHOVEC/ORAHOVAC

Evaluation criteria according to Annex 1 of the Law on SEA	Impacts of the Local Waste Management Plan (LWMP) of the Municipality of Rahovec/Orahovac
1. Characteristics of plans and programs, taking into account particularly	
1.1. the extent to which a plan or program defines the framework of projects and other activities, or their relation to the location, nature, size and operating conditions or the specified resources,	LWMP does not foresee the development of projects (infrastructure, waste management facilities) that would be subject to the procedure under the Law on EIA. The main objectives will be to cover as much of the municipal territory as possible with the waste collection service.
1.2. the extent to which the plan or program influences involved plans and programs and the hierarchy,	This plan is in accordance with the Municipal Development Plan, which is also subject to SEA, and does not affect existing or other municipal or national plans.
1.3. the connection of the plan or program for integrating environmental considerations in particular with regard to promotion of sustainable development,	Overall, the plan is in harmony with the principles of sustainable development, proposing measures for greater coverage of consumers, enhancing service quality, but also promoting the separation of waste at source.
1.4. environmental problems related to the plan or program,	The objectives set out under the Local Waste Management Plan for the municipality of Rahovec/Orahovac have not encountered potential environmental problems that could arise as a result of achievement of the above-mentioned objectives.
1.5. Compatibility of a plan or program for implementation of Community environmental legislation (e.g. plans and programs related to waste management and water protection).	It should be said that the plan is required under either environmental or local self-government legislation, and that its goal is to promote sustainable development, improve quality of life and environment, etc. Among other things, it is worth noting that this plan and all objectives included in this plan are in full harmony with the Municipal Development Plan which has passed through the SEA process.
2. Characteristics of effects and areas that are likely to be affected, taking into account particularly	
2.1. probability, duration, frequency and nature of effects,	LWMP includes a 5 year period (2016-2021). During these years, there is expected to be an increase of positive effects. (see point 1.3)
2.2. the cumulative nature of the effects,	The plan does not foresee the effects that in the cumulative context would result in environmental consequences. On the contrary, with increasing coverage of waste collection, there will be a reduction of illegal garbage disposal, which directly contributes to the enhancement of environmental quality in the municipality.
2.3. the cross-border nature of effects,	There will be no negative cross border effects. Local Waste Management Plan is of a local character. Positive effects which will be direct, are expected.

2.4. risk of human health due to the environment (e.g. as a cause of accidents)	No accidents are expected, and no risk to the human health is therefore expected.
2.5. the scale and spatial extent of effects (geographical area and size of population that may be affected),	The positive environmental effects of this plan, by the end of 2021, will affect 100% of the territory and 62300 inhabitants of the municipality of Rahovec/Orahovac.
2.6. the value and vulnerability of the area likely to be affected as a result of:	
2.6.1. special natural characteristics or cultural heritage,	Since LWMP does not foresee physical interference, construction of facilities, infrastructure, forest cutting, land occupation, digging etc, there will be no damage/degradation of natural areas or cultural heritage.
2.6.2. excessive environmental standards and limit values,	LWMP does not foresee projects that would result in emissions either in the air or in the water, which would be subject to review in the context of exceeding the standards or boundary values.
2.6.3. intensive land use.	LWMP does not foresee land occupation or use, all actions according to targets will be done in the existing state.
2.7. effects on areas or surfaces that have a recognized national, community or international protection status.	The municipality of Rahovec/Orahovac lies in the south-west of Kosovo. In the north are bordered with the municipality of Klina, in the east with the municipality of Suhareka, by west with Gjakova, while in the south with Prizren. The territory of the municipality of Rahovec is predominantly rural and forest area, and is vicinity is the Zoqishta Monastery and the Village of Hoqë e Madhe, which have a known national and community protection status, but LWMP is expected to have only a positive effect.

5. PUBLIC AWARENESS

All stakeholders should clearly understand LWMP objectives. Awareness is generated by creating a strong identity of the plan and communicating it consistently and uniformly.

Support from the public sector is essential to the community in identifying why change of behaviour towards waste management is important and thus accept the need for appropriate waste disposal, namely, to accept that the community itself is also part of the chain of municipal waste management.

The following section explains public awareness of the implementation of LWMP for the Municipality of Rahovec/Orahovac.

5.1. Public awareness and information strategy

The awareness strategy will be a strategy in itself, which will enable the implementation of LWMP with the involvement of as many actors as possible. It is important for this strategy to be in harmony with local policies, and as such, it would have 4 points:

- Targets - the main objectives/targets under the legislation in force;
- Key issues - focus on key local issues;
- Strategy and implementation - messages toward the broad public, ways of communication and techniques to achieve these objectives;
- Message delivery - this would include the development of key messages, raising awareness and educating parties involved.

The public awareness campaign will create a foundation based on objectives of plan that should be achieved, but as an example it could include:

- a. explaining the new lines and the essence of the territory's coverage with the waste management service;
- b. increasing public participation in recycling activities, but also as stated in the document, initiating waste separation at source;
- c. further improvement of waste management infrastructure.

5.1.1. Targets

The context on this communication strategy will be placed on a number of interrelated levels, which are:

- **EU policies**

As is known, EU waste management policies provide specific targets that every country aspiring membership should accomplish. Among other things, these include landfill directives, waste management directives, measures to be taken at local level in waste management, etc. These targets listed in the directives are often challenging and require change to the current approach, thus, more frequent and more interactive participation of the public is required.

• **National Waste Management Policies**

In Kosovo, there is a Law on Waste Management, the Plan and Strategy of the Republic of Kosovo on Waste Management, which can serve as good guides, and further assist municipalities in the implementation of LWMP. A project on waste management (Clean Environment Race) has been launched, which is supported by GIZ and implemented with the help of MESP. It aims to improve waste management services in the municipalities of Kosovo and whereby the institutions responsible for providing solid waste management services will gain access to capital investments for the development of their integrated solid waste management system based on their performance.

To achieve these goals, a more active cooperation of stakeholders from across the region is required. All stakeholders should be able to identify why this change in the current approach to waste management should take place.

Some of the proposals for direct access to the public and message delivery may be:

- Environmental education in municipal schools through establishment of environmental clubs in schools;
- Organization of study visits to waste landfills in order to closely see their management and importance of reducing waste versus green space occupation;
- Competition among schools in waste-themed painting;
- Competition among schools to build/design with recycled waste materials;
- Acknowledgment to private companies for their achievements and contributions on improving waste management in the municipality;
- Home composting (the possibility of obtaining composters through grants);
- Promotion of recycling in schools;
- Annual organization of an anti-waste event, concert/semi-marathon.

All these proposals, if implemented, would contribute to raising public awareness, starting from elementary school pupils and their homes. This public awareness strategy is normally in harmony with the LWMP prepared, and it will also help:

- reduce the amount of waste produced;
- raise awareness of waste separation at source.

5.1.2. Key issues

There will be two main central campaigns in the initial public information and awareness strategy for the municipality of Rahovec/Orahovac, which are:

The urgent task - The campaign will determine the scale of the task at local level and make the link between it and the need for everyone to participate in local initiatives organized in municipality of Rahovec/Orahovac.

The municipality is ready - The campaign will clearly illustrate that authorities in the Municipality are ready to fulfil this challenge.

With terms such as “This is what you need/can do” - clear and simple messages will be transmitted to interested parties (households, schools, business and agriculture, community leaders, etc.) regarding some simple daily tasks they can perform to help achieve the objectives. This would include clear messages for the prevention and minimization of wastes that would relate to the event “Running Contest /Concert against Waste”.

5.1.3. Strategy and implementation

The strategy will include a number of interrelated, temporary and permanent elements. Temporary aspects will be mainly related to raising awareness, whereas permanent ones will be related to the aspects of education.

5.1.4. Transmission of messages

Campaigns will include four phases:

- **Development** – Identification of key messages and images and communication development (tools and materials). A flexible approach is essential during the implementation of communication and education campaign, since the on-site situation may change according to the issues that arise.
- **Awareness:** should be of a high profile, with a wide impact, in order to involve and encourage some of the biggest stakeholders to act.
- **Education** - an abovementioned repeated program to keep the issue of waste in people's minds and at the same time provide advice and information on what to do or how to participate; continuous information will help maintain awareness levels.
- **Evaluation** - while implementing the plan, the same should also be measured in order to identify where the necessary messages can be re-displayed and where success can be observed, recorded in order to help maintain motivation.

6. ACTION PLAN

6.1. Clarify the responsibilities of citizens, businesses and local government

The Municipality of Rahovec/Orahovac, as the one responsible for the maintenance of the waste management system within its administrative boundaries on the one hand, and the active role of inhabitants and business, as mentioned in the chapter “Awareness”, should together build a proper WM system, by assuming their individual and joint responsibilities, as follows:

Inhabitants

The inhabitants are obliged to pay the waste collection service within the deadlines set by the Municipality of Rahovec/Orahovac.

Adherence of disposal rules

One of the main chains of proper functioning of Waste Management Plan is that the residents, first and foremost, respect and comply with the ways of disposal set by the Municipality. Inhabitants living in those parts of the city where cardboard and metals are collected, should separate the recyclable items accordingly and in compliance with the instructions given by the Municipality.

Active cooperation in the Plan

The inhabitants actively cooperate with the measures taken by the municipality to implement the waste management plan. In most cases, the municipality did its utmost best to keep control of pollution from waste, but in most cases it is impossible to achieve this, therefore citizens are required to make sure that the surrounding sites are clean, meaning that they themselves should be involved in cleaning the areas surrounding them.

Businesses

Polluter pays principle

Businesses pay within deadlines set by the Municipality.

High-level businesses should individually contract the collection and transportation service with a Service Provider licensed by the Ministry of Environment and Spatial Planning.

Therefore, high-level businesses contracting the waste collection service on an annual basis should report to the Municipality on the amount of waste disposed, this will enable the municipality to keep records of the type and amount of waste generated from large businesses in the municipality, and identify, if for any reason, their waste is thrown elsewhere e.g. in illegal landfills.

Invoking on the principle “Polluter pays” then the municipality with these evidenced facts will find it easier to fine the polluter.

On the other hand, the municipality should not have the role of a “guardian” but through different initiatives should include businesses in the waste management chains, and businesses will have to actively participate in reduction, recycling and reuse activities, thereby being owners or supporters of specific activities.

Local governance

Proper waste disposal

The municipality shall make efforts to establish a healthy collection and transportation service, taking into account efficiency, the environment and hygiene. The municipality tries to minimize waste through 3R activities, along with inhabitants and businesses, according to the activities presented in the “Awareness” chapter.

Implementation

DPS is responsible for implementing the plan. The Municipality shall, according to the Law on Waste, amend the Waste Management Regulation, wherein after having taken over the collection of waste fees, it should also review the fees, and envisage mechanisms to improve collection, including conditionality of providing certain municipal services with the payment of waste tax.

DPS shall report on annual bases on the implementation of the LWMP (Annex VI) before the Municipal Assembly, based on the Annual Plan of the Municipal Assembly. DPS shall also report to the Public Services Committee at least once a year or at the request of the Committee.

Also, the Inspection Directorate, in cooperation with law enforcement agencies, shall undertake measures to implement provisions of the Administrative Instruction on Mandatory Penalties as well as other relevant legislation for prevention and punishment of violations that mainly relate to illegal waste discharge.

6.2. Summary of implementation plan 2016-2021

No	Measures	Investment purpose	Actions Leading agency	Time period (quarter-Q)	2016	2017	2018	2019	2020	2021
1	O1 M1	LWMP Completion	Working Group/ DEMOS	Q3 2016						
2	O1 M2	Public discussion	Working Group/ DEMOS	Q4 2016						
3	O1 M3	Approval at the Municipal Assembly	Working Group	Q4 2016						
4	O1 M4	LWMP Review	Working Group	Q2 2018						
5	O2 M1	Municipality shall prepare the internal operating regulation for the enterprise which deals with cleaning/greening by zones, especially for the cleaning service, whereby duties and rights of personnel will be determined	Municipality	Q1 2017						
6	O2 M2	Establish and strengthen the waste management sector	Municipality	Q2 2017						
7	O2 M3	Improve collection service of existing companies in the transitional period. Provision of waste collection service by private operators or establishment of public enterprise	Municipality /WM Operators/private sector/ NGOs/Inhabitants	2017-2021						
8	O3 M1	Reducing illegal landfills and transforming parts of them into suitable areas for inhabitants,	Municipality /WM Operators/private sector/ NGOs/Inhabitants	2017-2021						
9	O3 M2	The gradual increase of population inclusion in the waste treatment system,	Municipality/MMPH/ WM Operators/private sector/NGOs/Inhabitants/local education system	2017-2021						
10	O3 M3	Determination of fee	Municipality	2017						
11	O3 M4	Increase waste collection	Municipality	2017-2021						
12	O3 M5	Establishment of a central database and information on the state of waste management	Municipality	2016-2017						
13	O4 M1	Ensure the purchase of equipment needed for waste collection	Municipality/WM Company	2017-2018						
14	O4 M2	Transport/Garage	WM Company	2017						
15	O4 M3	Public awareness	Municipality/ WM Operators/private sector/NGOs/Inhabitants/ local education system	2016-2021						
16	O4 M4	Commencement of waste separation and recycling - pilot projects	Municipality /WM Company	2018-2021						
17	O4 M5	Determination of locations and obtain approvals for Construction Waste Landfill	Municipality	Q1 2017						
18	O4 M6	Activation of Waste Construction Landfill	Municipality	Q2,3 2017						

7. MONITORING AND REVIEW

Within the 'client' function, the Municipality of Rahovec/Orahovac should ensure that the services are provided according to standards, that they meet the expectations of inhabitants and that they are in compliance with environmental principles. The implementation of the control function will require monitoring and control of services' quality and quantity, contracts or other arrangements and will guarantee the fulfilment of standards and conditions by the service provider as well as the measures envisaged in this plan. On the other hand, monitoring of services and other waste activities will allow the municipality of Rahovec/Orahovac to recognize expenditures, human resources and usability of equipment, adapt and improve the system according to real needs and achieve continuous progress (for quality and efficiency) as well as plan the necessary equipment for organization of waste services and activities in the future.

It is important to monitor the progress and effectiveness of measures taken.

Monitoring implementation can be considered as inclusion of four elements:

- Implementation efficiency – performance monitoring;
- Actions efficiency – compliance monitoring;
- Identification of new needs – responding to change;
- Action plan review.

The right path will be found only by analyzing the abovementioned elements.

Local governments for the implementation of the Local Waste Management Plan should be supported by both regional authorities and central institutions, including the Ministry of Environment and Spatial Planning, the Ministry of Economic Development, the Environment Protection Agency, the Forestry Agency and various non-governmental organizations.

The LWMP Implementation Coordinator will be the DPS - Waste Management Sector (WMS), currently does not exist, but is strongly recommended to be established as soon as possible. At the same time, the Waste Management Sector will be the main authority to monitor the results of LWMP implementation, which relates only to waste management in the Municipality of Rahovec/Orahovac.

A team (Environmental Working Group - EWG³), as part of the staff of the Waste Management Sector, will be in charge of monitoring the process. The EWG, which functions within the Inspectorate's Department, will immediately start working at the Directory of Public Services as soon as the implementation of LWMP commences. People in charge of this task should have official authority and knowledge of the field to carry out the monitoring functions. There must also be a sufficient number of people to ensure that all monitoring indicators that have been processed, data and conclusions reached at the end.

One of the most important tasks of the Waste Management Sector will be the drafting of the monitoring plan, which should be in line with the following indicators:

- 1) Which indicators will be monitored?
- 2) How will these indicators be monitored?
- 3) When and how often will these indicators be monitored?
- 4) Who is the person responsible for monitoring the specific indicators?
- 5) Who is the person responsible for analyzing the data?
- 6) When will the monitoring of these specific indicators begin?
- 7) What are the basic (initial) data for each of the indicators to be monitored?
- 8) How much will be the cost of monitoring?

Monitoring will be undertaken using a range of indicators. A key group containing the following types of indicators will be reported continuously:

- Environmental Infrastructure Performance Indicators
- Financial indicators
- Administrative Indicators (No. of Regulations, Penalties, Reports, etc.)

In order to facilitate the monitoring process related to this LWMP, the following table gives clear indicators to be taken into account for measurements such as: success indicators, intended results to be achieved, responsible authority and anticipated impact.

7.1. Determining performance indicators and sources of verification

Objectives	Activities	Responsible authorities	Success indicators	Impact/Effects
1. Waste Management Planning	Submission of LWMP to the Municipal Assembly for approval Review and update of LWMP in accordance with the updated Operating Plan including the monitoring plan	Municipality of Rahovec/Orahovac, Public Services Directorate, Waste Management Sector	Approval of LWMP by the Assembly	Entry into force and Implementation of LWMP Improved WM services and cleaner
2. Increase percentage of payment collection from waste collection services	Identification of households who do not pay the waste fee at all and of households who do not pay this fee regularly and make them public. Imposing fines and mandatory measures to households that do not pay the waste fee and raise awareness of households that do not pay the waste	Waste management sector Inhabitants NGOs Directorate of Inspectorate and the Environmental Working Group	Number of public announcements Number of fines imposed on households who do not pay fees.	Increased transparency Increase of revenues from WM fees and increase of citizen awareness
3. Establishment of a separate Waste Management Sector in the Municipality of Rahovec/Orahovac	Establishment of the WM Sector in the organizational structure of the Municipality of Rahovec/Orahovac and relevant staffing of the Directorate offices (at least 3 employees should be hired)	Public Services Directorate	Waste Management Sector, present in the organogram of the Municipality of Rahovec/Orahovac and fully functional and number of staff	Update of credible data. Best WM services. More chances to attract relevant investment.
4. Incorporating Recycling Businesses	Recycling businesses are advertising on print or electronic media. (Advertisements should focus on the benefits that recycling brings to the environment and society) Signing of Memorandum of Understanding between Recycling Businesses and the Municipality/Central Institutions to allocate sources at all public administration offices	Recycling businesses Recycling Businesses Municipality of Rahovec Central Institutions	Number of ads made. Number of publications in the media. Number of signed Memorandum of Understanding.	Increase public awareness on recycling. Increase the amount of recyclable materials Reduction of the waste amount going to the landfill. Increase employment in the recycling
5. Public awareness	Activities according to the list in the Public Awareness chapter	Municipality of Rahovec/Orahovac, environmental clubs in schools, businesses and inhabitants	Number of activities organized	Public awareness, Creating a habit for better waste management. Assist the implementation of LWMP A cleaner city

Annex I: Territory zoning

1.1. Summary table of area features– MA Rahovec/Orahovac

Category	Number
Number of inhabitant	56,208
Number of households	8,676
Surface area in Km ²	276
Generated waste (calculated)	10,611

Coverage with WM services	Number	In %
Covered with WM services (households)	8,143	93.9%
Not covered with WM services (households)	533	6.1%

Category - Zoning	Zone1	Zone 2	Total
No. of locations	14	22	36
Average in Km	7.90	15.64	24
Surface area in Km ²	144	132	276
No. of households	6,282	2,394	8,676
No. of households/WM provided services	6,282	1,861	8,143
Coverage level with WM Services	100.0%	77.7%	93.9%
Population No.	34,658	21,550	56,208
Population no. in %	61.7	38.3%	100.0%
Gen. waste per year in %	7,099	3,512	10,611
Gen. waste per year in %	66.9%	33.1%	100.0%

Category	Population	%	Surf. Km ²	%	Waste	%
Urbane	15,892	28.3%	49	17.8%	3,596	33.9%
Suburban	4,205	7.5%	39	14.0%	952	9.0%
Rural	21,670	38.6%	102	37.0%	3,955	37.3%
Remote	14,441	25.7%	86	31.2%	2,108	19.9%
Total	56,208	100.0%	276	100.0%	10,611	100.0%

Zone	Location no.	Average in Km	Surf. Km ²	No. of households	Population	Waste generated Per year
Zone 1	14	7.90	144	6,282	34,658	7,099
Zone 2	22	15.64	132	2,394	21,550	3,512
Total	36		276	8,676	56,208	10,611

1.2. Zoning of Rahovec/Orahovac MA based on the criteria for evaluation of the zone in the waste management sector

Defined zones for Waste Management - MA Rahovec/Orahovac

Zone 1	Zone 2	Zone 3
No. of locations 14	No. of locations 22	No. of locations 36
38.9%	61.1%	100.0%
Population 34,658	Population 21,550	Population 56,208
61.7%	38.3%	100.0%
Surface in km ² 144	Surface in km ² 132	Surface in km ² 276
52.2%	47.8%	100.0%
Households 6,282	Households 2,394	Households 8,676
72.4%	27.6%	100.0%
WM services provided Households 6,282	WM services provided Households 1,861	WM services provided Households 8,143
77.1%	22.9%	100.0%
WM services coverage 100.0%	WM services coverage 77.7%	WM services coverage 93.9%

1.3. Defined zones of WM by km²

Category	Zone 1	Zone 2	Total	In %
Urban	49	-	49	17.8%
Suburban	31	8	39	14.0%
Rural	55	47	102	37.0%
Remote	10	76	86	31.2%
Total	144	132	276	100.0%
<i>In %</i>	52.2%	47.8%	100.0%	

1.4. Defined areas of WM by estimated waste generation

Category	Zone 1	Zone 2	Total	In %
Urban	3,596	-	3,596	33.9%
Suburban	592	359	952	9.0%
Rural	2,764	1,191	3,955	37.3%
Remote	147	1,962	2,108	19.9%
Total	7,099	3,512	10,611	100.0%
<i>In %</i>	66.9%	33.1%	100.0%	

1.5. Distribution of households by defined zones and companies providing WM services

Opertori	Zone 1	Zone 2	Total	In %
Ekodrinia	540	1,861	2,401	29.5%
NJP "Ambienti	5,742	-	5,742	70.5%
Total	6,282	1,861	8,143	100.0%

1.6. Zone 1- based on defined zoning criteria

No.	Zone	Rural Urban	Zone	Distance KM	Range Km.	No. inhabi- tants	Number of households in the municipality	Generation of WM
1	Rahovec/ Orahovac	Urban	Zone 1	1.0	0-3	15,892	3,072	3,596
2	Krushë e Madhe/Ve- lika Kruša	Rural	Zone 1	10.0	9-12	4,473	779	816
3	Xërxë/Zrze	Rural	Zone 1	9.3	9-12	3,184	288	581
4	Bel- lacërkë/ Bela Crkva	Rural	Zone 1	7.0	6-9	2,270	252	414
5	Opter- ushë/ Opteruša	Rural	Zone 1	8.1	6-9	1,911	332	349
6	Celinë/ Celina	Rural	Zone 1	11.8	9-12	1,903	357	347
7	Brestoc/ Brestovac	Suburban	Zone 1	4.3	3-6	1,288	265	291
8	Hoçë e Vogël/ Mala Hoca	Suburban	Zone 1	5.5	3-6	1,166	224	264
9	Retijë/Re- timlje	Remote	Zone 1	12.9	12-40	771	124	113
10	Nagavc/ Nogavac	Rural	Zone 1	7.5	6-9	743	158	136
11	Zoqishtë/ Zocište	Rural	Zone 1	7.1	6-9	659	165	120
12	Reti e Poshtme/ Donje Retimlje	Remote	Zone 1	16.4	12-40	234	124	34
13	Hoçë e Madhe/Ve- lika Hoca	Suburban	Zone 1	4.8	3-6	124	142	28
14	Bërnjak/ Brnjaca	Suburban	Zone 1	4.9	3-6	40	-	9
Total						34,658	6,282	7,099

1.7. Zone 2 - based on defined zoning criteria

No.	Zone	Rural Urban	Zone	Distance KM	Range Km.	No. inhabitants	Number of households in the municipality	Generation of WM
1	Drenoc/Drenovac	Suburban	Zone 2	5.7	3-6	1,587	161	359
2	Pataqan i Poshtëm/Donje Potocane	Rural	Zone 2	11.0	9-12	1,077	103	197
3	Pastasellë/Pusto Selo	Rural	Zone 2	9.2	9-12	1,011	83	185
4	Sapniq/Sopnic	Rural	Zone 2	9.7	9-12	996	90	182
5	Polluzhë/Poluža	Rural	Zone 2	11.2	9-12	808	162	147
6	Senoc/Sanovac	Rural	Zone 2	7.2	6-9	687	101	125
7	Gexhë/Gede	Rural	Zone 2	11.6	9-12	660	165	120
8	Zatriq/Zatric	Rural	Zone 2	10.3	9-12	535	42	98
9	Pataqan i Epërm/Gornje Potocane	Rural	Zone 2	6.2	6-9	533	52	97
10	Nushpal/Našpale	Rural	Zone 2	7.0	6-9	220	32	40
11	Ratkoc/Ratkovac	Remote area	Zone 2	17.0	12-40	3,791	380	553
12	Radostë/Radoste	Remote area	Zone 2	12.3	12-40	2,346	206	343
13	Dejnë/Danjane	Remote area	Zone 2	19.0	12-40	1,757	116	257
14	Çifllak/Ciflak	Remote area	Zone 2	23.0	12-40	1,292	104	189
15	Kramovik/Kramovik	Remote area	Zone 2	25.5	12-40	1,125	93	164
16	Vrajak/Vranjak	Remote area	Zone 2	20.0	12-40	838	72	122
17	Dobidol/Dobri Dol	Remote area	Zone 2	20.9	12-40	799	138	117
18	Petkoviq/Petkovic	Remote area	Zone 2	28.3	12-40	731	183	107
19	Bratotin/Bratotin	Remote area	Zone 2	20.7	12-40	396	58	58
20	Mrasor/Mrasor	Remote area	Zone 2	32.0	12-40	191	28	28
21	Kaznik/Koznik	Remote area	Zone 2	13.0	12-40	164	24	24
22	Sarosh/Saroš	Remote area	Zone 2	23.3	12-40	6	2	1
Total				15.6		21,550	2,394	3,512

1.8. Zones by defined zoning criteria

Zone	No. inhabitants	Number of households in the Municipality	Generation of WM
Zone 1	34,658	6,282	7,099
Zone 2	21,550	2,394	3,512
Total	56,208	8,676	10,611

Annex II: Zone recognition

2.1. Number of inhabitants and households

Category	Population	In %	Number of households	In %
Urban	15,892	28%	3,072	35.4%
Suburban	4,205	7%	792	9.1%
Rural	21,670	39%	3,160	36.4%
Remote	14,441	26%	1,652	19.0%
Total	56,208	100%	8,676	100.0%

2.2. Number of inhabitants by zone and distance

Distances	0-3 km	3-6 km	6-9 km	9-12 km	12-40 km	Total	In %
Urban	15,892	-	-	-	-	15,892	28.3%
Suburban	-	4,205	-	-	-	4,205	7.5%
Rural	-	-	7,023	14,647	-	21,670	38.6%
Remote	-	-	-	-	14,441	14,441	25.7%
Total	15,892	4,205	7,023	14,647	14,441	56,208	100.0%
<i>In %</i>	<i>28.3%</i>	<i>7.5%</i>	<i>12.5%</i>	<i>26.1%</i>	<i>25.7%</i>	<i>100.0%</i>	

2.3. Household distribution report by distances in kilometres

Housing	0-3	3-6	6-9	9-12	12-40	Total
Urban	3,072	-	-	-	-	3,072
Suburban	-	792	-	-	-	792
Rural	-	-	1,092	2,069	-	3,160
Remote	-	-	-	-	1,652	1,652
	3,072	792	1,092	2,069	1,652	8,676
<i>In %</i>	<i>35.4%</i>	<i>9.1%</i>	<i>12.6%</i>	<i>23.8%</i>	<i>19.0%</i>	<i>100.0%</i>

2.4 Surfaces in square kilometre by category

Category	0-3	3-6	6-9	9-12	12-40	Total
Urban	49	-	-	-	-	49
Suburban	-	39	-	-	-	39
Rural	-	-	36	66	-	102
Remote	-	-	-	-	86	86
Total	49	39	36	66	86	276
<i>In %</i>	<i>17.8%</i>	<i>14.0%</i>	<i>13.0%</i>	<i>24.0%</i>	<i>31.2%</i>	<i>100.0%</i>

2.5. Waste distribution by distance in kilometres (two categories)

Category	0-9 Km	12-40 Km	Total
Urban	3,596	-	3,596
Suburban	952	-	952
Rural	1,282	2,673	3,955
Remote	-	2,108	2,108
Total	5,830	4,781	10,611
<i>In %</i>	<i>54.9%</i>	<i>45.1%</i>	<i>100.0%</i>

2.6. % of waste distribution by distances in kilometres of types of settlements

Category	0-3	3-6	6-9	9-12	12-40	Total	In %
Urban	3,596	-	-	-	-	3,596	33.9%
Suburban	-	952	-	-	-	952	9.0%
Rural	-	-	1,282	2,673	-	3,955	37.3%
Remote	-	-	-	-	2,108	2,108	19.9%
Total	3,596	952	1,282	2,673	2,108	10,611	100.0%
<i>In %</i>	<i>33.9%</i>	<i>9.0%</i>	<i>12.1%</i>	<i>25.2%</i>	<i>19.9%</i>	<i>100.0%</i>	

2.7. Waste structure estimated by day-to-day generation per person for 2016 (in tons)

Composition	In %	Total
Kitchen waste	42.0%	4,457
Paper	13.6%	1,443
Other	11.5%	1,220
Plastic	10.6%	1,125
Heating ashes	8.3%	881
Glass/bottles	4.9%	520
Grass & wood (green waste)	2.9%	308
Ashes/soil	2.9%	308
Metal	1.3%	138
Textile	1.2%	127
Ceramic & stone	0.5%	53
Rubber and leather	0.3%	32
Total	100.0%	10,612

Waste estimated by day-to-day generation per person.

- Urban 0.62 KG
- Suburban 0.62 KG
- Rural 0.50 KG
- Remote 0.40 KG

2.8. Waste structure estimated for 2016 by range of measured distances (in tons)

Composition	In %	0-3	3-6	6-9	9-12	12-40	Total	In %
Kitchen waste	42.0%	1,510	400	538	1,123	886	4,457	42.0%
Paper	13.6%	489	129	174	364	287	1,443	13.6%
Other	11.5%	414	109	147	307	242	1,220	11.5%
Plastic	10.6%	381	101	136	283	223	1,125	10.6%
Heating ashes	8.3%	298	79	106	222	175	881	8.3%
Glass/bottles	4.9%	176	47	63	131	103	520	4.9%
Grass & wood (green waste)	2.9%	104	28	37	78	61	308	2.9%
Ashes/soil	2.9%	104	28	37	78	61	308	2.9%
Metal	1.3%	47	12	17	35	27	138	1.3%
Textile	1.2%	43	11	15	32	25	127	1.2%
Ceramic & stone	0.5%	18	5	6	13	11	53	0.5%
Rubber and leather	0.3%	11	3	4	8	6	32	0.3%
Total	100.0%	3,596	952	1,282	2,673	2,108	10,612	100.0%
<i>In %</i>		33.9%	9.0%	12.1%	25.2%	19.9%	100.0%	

2.9. Designing the possibility of waste collection for the period 2016-2021 (in tons)

	Separation of waste in % of waste generated	7%	8%	9%	10%
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No.	Composition	In %	2016	2017	2018	2019	2020
1	Kitchen waste	42%	4,457	312	357	401	446
2	Paper	14%	1,443	101	115	130	144
3	Other	12%	1,220	85	98	110	122
4	Plastic	11%	1,125	79	90	101	112
5	Heating ashes	8%	881	62	70	79	88
6	Glass/bottles	5%	520	36	42	47	52
7	Grass & wood (green waste)	3%	308	22	25	28	31
8	Ashes/soil	3%	308	22	25	28	31
9	Metal	1%	138	10	11	12	14
10	Textile	1%	127	9	10	11	13
11	Ceramic & stone	1%	53	4	4	5	5
12	Rubber and leather	0%	32	2	3	3	3
	Total	100%	10,611	743	849	955	1,061

Annex III: Area coverage with WM services

3.1. Distribution of WM service provision –Number of households

Category	0-3	3-6	6-9	9-12	12-40	Total	Index
WM services provided	3,072	792	1,050	1,870	1,359	8,143	93.9%
WM services not provided	-	-	42	199	293	533	6.1%
Total	3,072	792	1,092	2,069	1,652	8,676	100.0%
Coverage rate	100.0%	100.0%	96.2%	90.4%	82.3%	93.9%	

3.2. Distribution of WM services provision - Number of population

Category	0-3	3-6	6-9	9-12	12-40	Total	Index
WM services provided	15,892	4,205	6,754	13,241	11,883	51,975	92.5%
WM services not provided	-	-	269	1,406	2,558	4,233	7.5%
Total	15,892	4,205	7,023	14,647	14,441	56,208	100.0%

3.3. Estimation of WM services coverage index (by distances in KM) - number of households

-WM services provided

Category	0-3	3-6	6-9	9-12	12-40	Total	In %
Urban	3,072	-	-	-	-	3,072	37.7%
Suburban	-	792	-	-	-	792	9.7%
Rural	-	-	1,050	1,870	-	2,920	35.9%
Remote	-	-	-	-	1,359	1,359	16.7%
Total	3,072	792	1,050	1,870	1,359	8,143	100.0%
<i>In %</i>	37.7%	9.7%	12.9%	23.0%	16.7%	100.0%	

-WM services not provided							
Category	0-3	3-6	6-9	9-12	12-40	Total	In %
Urban	-	-	-	-	-	-	0.0%
Suburban	-	-	-	-	-	-	0.0%
Rural	-	-	42	199	-	240	45.1%
Remote	-	-	-	-	293	293	54.9%
Total	-	-	42	199	293	533	100.0%
<i>In %</i>	0.0%	0.0%	7.8%	37.3%	54.9%	100.0%	
Total	3,072	792	1,092	2,069	1,652	8,676	

3.4. Estimation of WM services coverage index – Households - WM (by distances in km) – WM companies

Category	0-3	3-6	6-9	9-12	12-40	Total	In %
NJP “Ambienti”	3,072	631	655	1,136	248	5,742	70.5%
Ekodrinia	-	161	395	734	1,111	2,401	29.5%
Total	3,072	792	1,050	1,870	1,359	8,143	100.0%
<i>In %</i>	<i>37.7%</i>	<i>9.7%</i>	<i>12.9%</i>	<i>23.0%</i>	<i>16.7%</i>	<i>100.0%</i>	

Annex IV: Implementation of LWMP

4. Financial effects of plan implementation for 2016-2021

4.1. Implementation of zone coverage for LWMP - Main categories for 2016-2021

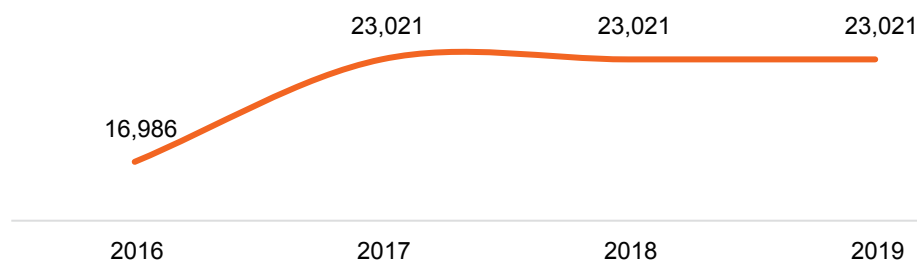
Category	2016	2017	2018	2019	2020	2021	Total
Households	-	393	140	-	-	-	533
No. of locations	-	8	2	-	-	-	10
Number of inhabitants	-	2,116	140	-	-	-	2,256
Generated waste (in tons)	-	352	87	-	-	-	439

4.1.6. Revenue estimates- WM implementation 2016-2021

Category	2016	2017	2018	2019	2020	2021	Total
Households	-	393	140	-	-	-	533
Projected revenues (fee: 4.5 EURO)	-	21,232	7,545	-	-	-	28,777
Exempt from payment	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	
Households/active	-	16,986	6,036	-	-	-	23,021
Annual revenues	-	16,986	6,036	-	-	-	23,021

Total municipal revenues	-	16,986	23,021	23,021	23,021	
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Revenue estimates- WM implementation 2016-2021



4. Locations of some families not included in WM system

Area	Zone	Distance in km	Ranking in km.	No. of inhabitants	Households	Households/covered	Households/not covered	Waste generation per year/ tons	Not managed waste	Coverage coefficient in %	Not coverage coefficient in %
Nushpal/Našpale	Zone 2	7	6-9	220	32	22	10	40	13	68.3%	31.7%
Senoc/Sanovac	Zone 2	7	6-9	687	101	69	32	125	39	68.6%	31.4%
Polluzhë/Poluža	Zone 2	11	9-12	808	162	60	102	147	93	37.1%	62.9%
Gexhë/Gede	Zone 2	12	9-12	660	165	68	97	120	71	41.2%	58.8%
Kaznik/Koznik	Zone 2	13	12-40	164	24	8	16	24	16	33.3%	66.7%
Bratotin/Bratotin	Zone 2	21	12-40	396	58	24	34	58	34	41.4%	58.6%
Dobidol/Dobri Dol	Zone 2	21	12-40	799	138	36	102	117	86	26.1%	73.9%
Sarosh/Saroš	Zone 2	23	12-40	6	2	1	1	1	0	50.0%	50.0%
Petković/Petkovic	Zone 2	28	12-40	731	183	56	127	107	74	30.6%	69.4%
Mrasor/Mrasor	Zone 2	32	12-40	191	28	15	13	28	13	53.6%	46.4%
Total				4,662	892	359	533		439	40.3%	59.7%

4.2. Implementation of households not included in WM for planned period 2016-2021

Area	Year/implementation	2016	2017	2018	2019	2020	2021	Total
Nushpal/Našpale	2017		10					10
Senoc/Sanovac	2017		32					32
Polluzhë/Poluža	2017		102					102
Gexhë/Gede	2017		97					97
Kaznik/Koznik	2017		16					16
Bratotin/Bratotin	2017		34					34
Dobidol/Dobri Dol	2017		102					102
Sarosh/Saroš	2017		1					1
Petković/Petkovic	2018			126.75				127
Mrasor/Mrasor	2018			12.965				13
Total		-	393	140	-	-		533
<i>Locations</i>		-	<i>8.00</i>	<i>2.00</i>	-	-		

4.2.1. Implementation of households not included in WM system for the planned period 2016-2021 – Based on the zones

Area	2016	2017	2018	2019	2020	2021	Total
Zone 1	-	-	-	-	-	-	-
Zone 2	-	393	140	-	-	-	533
Total	-	393	140	-	-	-	533

4.2.2. Implementation of households not included in WM system for the planned period 2016-2021 – Based on the rank of distance

Distance	2016	2017	2018	2019	2020	2021
0-3	-	-	-	-	-	-
3-6	-	-	-	-	-	-
6-9	-	42	-	-	-	42
9-12	-	199	-	-	-	199
12-40	-	153	140	-	-	293
Total	-	393	140	-	-	533

Annex V: Assessment of financial and operational performance of WM sector - Municipality of Rahovec/Orahovac

5.0. WM sector for main categories

2015

Month	Revenues	Collection	% of encashment	Waste collection	No. of clients (4.5 Euro)
January	28,932	16,583	57.3%	661.73	6,429
February	28,679	16,473	57.4%	617.53	6,373
March	28,944	14,959	51.7%	629.53	6,432
April	28,994	17,217	59.4%	637.93	6,443
May	29,179	14,709	50.4%	631.93	6,484
June	29,639	20,292	68.5%	614.73	6,586
July	30,269	18,815	62.2%	692.93	6,726
August	30,507	17,978	58.9%	790.83	6,779
September	30,246	19,639	64.9%	743.73	6,721
October	29,507	21,978	74.5%	691.65	6,557
November	30,031	21,443	71.4%	673.79	6,674
December	29,559	29,978	101.4%	656.09	6,569
Total	354,486	230,063	64.9%	8,042.44	

2016

Month	Revenues	Collection	% of encashment	Waste collection	No. of clients (4.5 Euro)
January	30589	19145	62.6%	588.00	6,798
February	34642	19060.01	55.0%	553.20	7,698
March	41563	19076.24	45.9%	694.60	9,236
Total	106,794	57,281	53.6%	1,835.80	

5.1. WM sector for main categories of companies (Ekoregjioni/Ekodrinia) for 2015

Months	Ekoregjioni	Ekodrinia	Total sector
January	18,128	10,804	28,932
February	17,875	10,804	28,679
March	18,140	10,804	28,944
April	18,190	10,804	28,994
May	18,375	10,804	29,179
June	18,835	10,804	29,639
July	19,465	10,804	30,269
August	19,703	10,804	30,507
September	19,442	10,804	30,246
October	18,703	10,804	29,507
November	19,227	10,804	30,031
December	18,755	10,804	29,559
Total	224,838	129,648	354,486

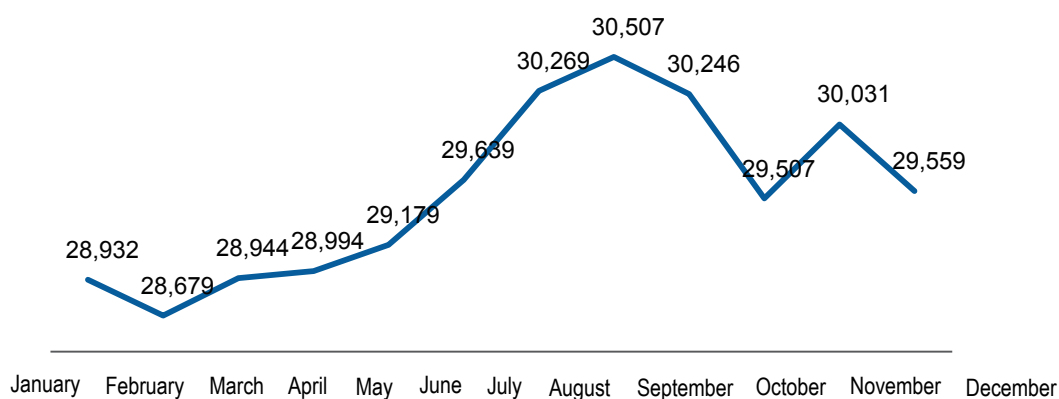
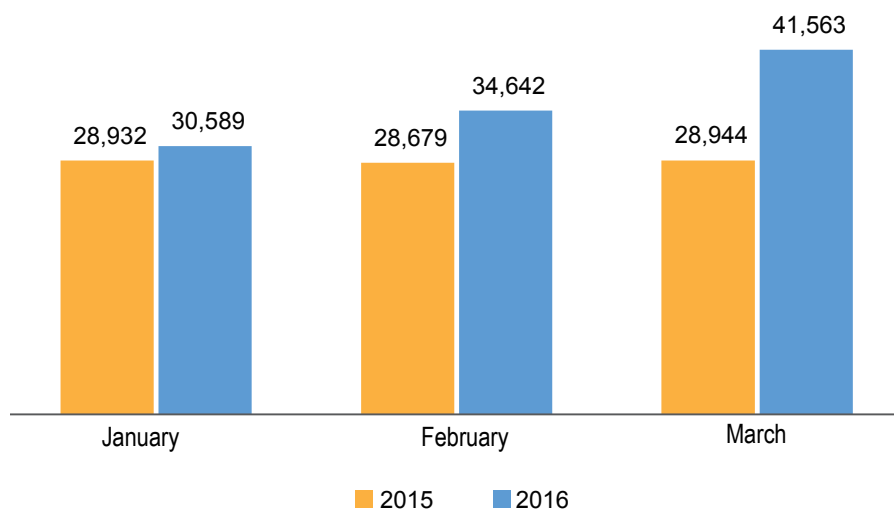


Figure 1: Graphic presentation of WM sector revenues for 2015

5.2. Comparative analysis of WM sector revenues for the first quarter 2015/2016

Month	2015	2016	+/-
January	28,932	30,589	1,657
February	28,679	34,642	5,963
March	28,944	41,563	12,619
Total	86,555	106,794	20,239



5.3. Analiza krahasuese e të hyrave e sektorit të MM e bazuar në tremujor për 2015/2016

Revenues	Billing value
Q1-2015	86,555
Q2-2015	87,812
Q3-2015	91,022
Q4-2015	89,097
Q1-2016	106,794

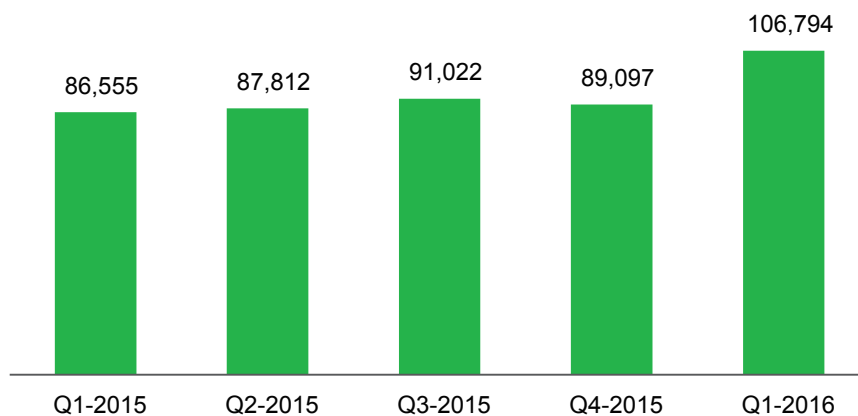


Figure 2: Comparative analysis of WM sector revenues based on the first quarter 2015/2016

5.4. Calculation of active clients number in WM sector (revenues /4.5 Euros) for 2015/2016

2015

Months	Eko-regjioni	Ekodrinia	Total Sector
January	4,316	2,572	6,889
February	4,256	2,572	6,828
March	4,319	2,572	6,891
April	4,331	2,572	6,903
May	4,375	2,572	6,947
June	4,485	2,572	7,057
July	4,635	2,572	7,207
August	4,691	2,572	7,264
September	4,629	2,572	7,201
October	4,453	2,572	7,025
November	4,578	2,572	7,150
December	4,465	2,572	7,038

2016

Months	Eko-regjioni	Ekodrinia	Total Sector
January	4,397	2,401	6,798
February	5,297	2,401	7,698
March	6,835	2,401	9,236

Aneks VI: Reporting Sample of DPS

Directorate of Public Services

Report on Implementation of the Local Waste Management Plan

This annual report is based on data from the Local Waste Management Plan 2017-2022 and on field data.

The report shall serve as information on the fulfilment of targets under the aforementioned plan and shall be drafted by Directorate of Public Services.

According to the plan, during 2017 following actions are anticipated to take place:

4. xxx
xxx was foreseen. Municipality has undertaken xxx
5. xxx
xxx was foreseen. Municipality has undertaken xxx
6. xxx
xxx was foreseen. Municipality has undertaken xxx

Furthermore, xxx has taken place over the past year.

(Additional information - several in cooperation with the Directorate of inspection):

In cooperation with the Directorate of Inspection and law enforcement agencies, measures have been taken to implement provisions of the Administrative Instruction for Penalties with Mandatory fines, and other relevant legislation for the prevention and punishment of violations mainly related to illegal waste disposal.

Over the last year we have undertaken actions below in order to ensure a better implementation of the plan.

- number of inspections;
- number of fines;
- citizen satisfaction (if any survey is done);
- number of citizens' complaints (if data are available), etc. If there is data for two years, it will enable a comparison between them.

Table of measurement Indicators for the Waste Management Sector in the Municipality;

Field	Objective	Indicator	Basis	Goal
Waste collection	Collection and waste management for all inhabitants of the municipality	% of waste collected		
		% of coverage		
		% of new customers introduced into the system		
Billing and collection	Increase of financial performance in the WM sector	% of collection		
		% of payment of old debts		
		% of WM's cost recovery from revenues		
Public Awareness	Raising awareness among citizens	No. of the activities conducted		
		% of the budget allocated for this purpose		
		Number of citizens' complaints		
Inspections	Inspections as a tool for achieving WM system perfection	No. of inspections of the municipal inspectorate		
		No. of inspections of companies by their own staff		
		No. of fines imposed		
Waste disposal	Proper waste disposal helps to prevent the creation of new illegal landfills and to reduce the adverse impact on the environment.	Quantity of disposed waste		
		Elimination of illegal landfills		

In general, actions undertaken had impact on xxx (eg better environmental quality, reduction of illegal landfills and creation of green spaces, etc.).

For 2017, were plaed the following acti1ons whereby a budget in the amount of xxx Euros has been allocated. The focus will be on xxx.

Appendix: Monitoring Table, Evidence (before and after pictures, monitoring reports from certain municipal officials, citizen survey reports).

