



## A NEW VISION CONCERNING THE GENERATION AND ADMINISTRATION MUNICIPAL RESIDUES

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### ABSTRACT

*In average urban, administration of municipal waste is realization in organized way by dint of own specialize services of his city halls of firms of salubrity. Proportion urban populations serve of services of bred at 76% in 2006, to approximately 90% in 2008.*

*In average rural, don't exist the organized services for administration of waste, the transport to the places of individually storage. This are serve in charge organized for administration of waste merely a little part from rural localities and in especial except needle rural localities found out contiguously urban centers. In the year 2008, approximately 12% from rural were service in charge of salubrity.*

KEYWORDS: municipal residues, administration, depot, storage

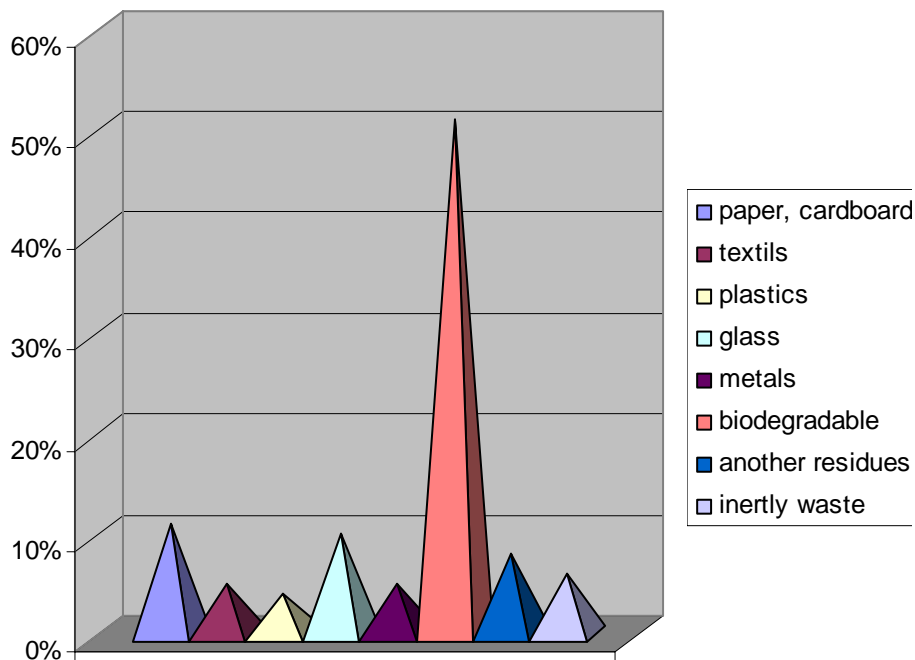
### 1. Introduction

The amount of municipal waste produced varies from year to year, registering in the last six years a general tendency to increase, determined in particular by the growth of the population consumption (Table

1). From the amount of municipal waste, is biggest part is represented by organic and assimilated wastes, generated by individual households and also, by economic units, commercial offices, institutions, hospitals.

*Table 1.*

Types of residues	Generated residues	Capitalized residues	Eliminated residues
	[thousand tones]		
Housekeeper residues and assimilated - collected	5043.845	13.242	5030.603
Residues from municipal services (including mud from defecation city worn-out waters)	1573.715	76.784	1496.931
Residues from building and demolitions	247.286	2.253	245.033
Not collected residues (estimate in depending on the average index of generation)	1570.471	0	1570.471
Total municipal residues	8435.317	92.279	8343.038



*Fig.1. Amounts in percent by type of waste.*

The residues composition varied in recent years, with the largest share of biodegradable waste. In 2008, the biodegradable waste (excluding paper and cardboard) represented approximately 51% of the total domestic collection. Municipal waste production preview was based on the predicted growth in population, the average time of life, the consumption increase; national waste management plan estimates an average increase of 0.8% of the municipal waste generated annually. There are also plans for other waste streams, for example, hazardous waste from scrapped vehicles, waste from electrical and electronic equipment, resulting from water treatment, from constructions and demolitions. The monitoring system includes: a performance evaluation and presentation of targets, the resulting indicators are presented in an annual public report "Regional Integrated Waste Management Plan (RIWMP) which includes: targets for improving waste collection in rural areas, the closure of old landfill and the redevelopment of the environment, the construction and operation of corresponding landfill, the reduction of the amount of biodegradable waste in landfill and waste recycling systems for packaging. The types of waste which are municipal waste are managed differently depending on their characteristics and the generated quantities.

## 2. Administration of organic waste

Approximately 40% of municipal waste is recyclable material component, 20% can be

recovered. After a selected collection, through pilot projects, only 20% of recyclable materials can be reused.

The rest is excreted in storage, thus losing large quantities of secondary raw materials and energy resources.

In recent years, more and more private operators have begun the actions of collecting pets and cardboard. In some localities there are "points of collection and storage" and people are stimulated to recycle paper, cardboard, glass, plastics. In Romania, plants from: glass paper, cardboard and plastics industry production have begun to take the waste from the collection point for recycling.

## 3. The storage of municipal waste

The storage of municipal waste is the main method for municipal waste disposal. Municipal waste deposits in accordance with the Directive on the landfill of waste 1999/31.CE were renewed in early 2008. In Romania there are 283 municipal landfills in urban areas (which receive waste collected by sanitation companies in urban areas), which:

- 19 stores are in line or were predicted to be arranged in accordance with European regulations 31. 12. 2008;

- 238 deposits are not in accordance with European requirements, and that storage will cease operation until 2017;

- 13 storage landfills were closed in the period 2003-2004.



Necessary to ensure compliance costs by investing in municipal landfills were estimated at 1.775 million.

In addition to municipal waste landfills, in urban areas, in Romania there were 2686 storage facilities in rural areas up to 1 ha.

Some rural ecological landfills areas are organized starting with 16.07.2009; these landfills have waste collecting services at rural level, including transport systems.

### **3.1. Administration of municipally sludge**

Nowadays, most of the sludge produced by municipal wastewater is treated by different methods being stored, only a small part of the annual amount is recovered and used in agriculture.

### **3.2. Administration of waste from building and demolitions**

The amount of construction and demolition waste generated in Romania is relatively low, but their growth is expected, driven by the country's economic development.

Waste production is represented mainly by industrial and agricultural waste, including energy production.

Currently, there are very few companies that have lines of production for waste recovery and the services they provide are small, they also use a small number of types of waste, with reduced working capacity.

During 2003, waste produced by mining and industry, were 370 million tones, the main part (90%) being waste resulting from mining activities (mining) - 331 millions tons, and 30.5 million tones are from industry and agriculture.

The economic activities which have produced the largest quantities of waste in 2003, excepting the mining industry, were the chemical, petrochemical, rubber and plastics (27%), metallurgy and metal construction (17%), energy industries (13%), food, beverages, tobacco (10%), other economic activities (33%).

The industrial branches which generate high quantities of waste are the energy industry, petrochemical industry, metallurgy, food industry. From the amount of waste generated, approximately 30% is recovered, the other part is removed by incineration or disposal.

## **4. Residues from medical activities**

From the total quantity of waste produced in hospitals, 75-90% are non-hazardous being

assimilated with organic waste, and only 10-25% represents hazardous waste.

Hazardous medical waste can be eliminated through incineration crematoria or heat treatment installation.

The final disposal of hazardous waste from healthcare activities in 2003 was as follows: 76% through its crematorium, 13% used other firms, 7.5% of hazardous waste were burned in open air.

The hazardous waste from medical activities represents approximately 30% of the total 190000 tons /year.

## **5. Conclusions**

Since 2006 the amount of generated municipal waste has exceeded 1 million tons and in 2008 1,165,000 tons. The biggest part of municipal waste is represented by the food waste (57%), collected from households, this amount is constant over the last eight years, but is expected to increase due to expansion of coverage of health services.

The household waste collected, is equivalent to the industrial, commerce and institutions waste, being about 16%, or about 190,000 tons / year.

Other categories of waste collected have a lower percentage, ie:

-1.3-2.6% of separately municipal waste collected;

- 1.5-2.3% waste from parks and gardens;

-1.6 -2.1% market waste;

- 3.5 - 4.3% waste from the streets.

Selective and systematic collection of recyclable materials (paper / cardboard, glass, plastic, metals, etc.), has already begun and will continually develop through several projects.

Nowadays, the quantities of waste selectively collected represent those for authorized firms of recyclable waste collection. They come from industry and commerce, as shown previously, in more detailed a statistical analysis.

Uncollected waste is about 15% of total municipal waste generated, the calculation was made using an index of generation of 0.9 kg/year x population in urban areas and 0.4 kg/year x population in rural areas.

In most of resulted cases submitted not in accordance with European and national service so that those areas have become "contaminated areas".

Currently a study is done is to inventory "of contaminated sites, and clarify their legal position. After this inventory is an assessment of risk made more of the inventory for the specific situation of the present resolution and taking appropriate measures for their rehabilitation or closure.



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