

THE SELECTIVE COLLECTION OF RECYCLABLE WASTE – A CHALLENGE IN THE CONTEXT OF ROMANIA’S SUSTAINABLE DEVELOPMENT

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Abstract:

In this paper we analyzed the requirements for Romania deriving from the principles and European directives made regarding the selective collection of recyclable waste to implement the concept of sustainable development. The integrated waste management system is not fully functional in Romania which can cause much of the recyclable waste not to take the road of recycling but that of final disposal generating pollution. I believe that the rigorous application of European directives transposed into national legislation, national strategies on waste management but also making people aware and educating them are the factors that lead to the major desideratum of full processing and recovery of all recyclable waste. The most important way to recovery is the selective collection of recyclable waste. Most cities in Romania have implemented selective waste collection systems complying both with the national and county strategies in which waste management is concerned. This paper shows how the selective collection system is implemented in Oradea and in Bihor county and all the challenges that result from it.

Keywords: integrated waste management, sustainable development, recyclable waste, national recycling targets, selective collection

JEL classification: Q53.

1. Introduction The continuous urbanization, industrialization, rising living standards process lead to increased consumption and therefore to the increase of the amount of household waste. Through its policies in the field of integrated waste management, the European Union ensures that the current economic growth will not lead to the generation of more and more waste. In this regard it was required to create and implement long-term strategies on waste. Thus, the Thematic Strategy on Waste Prevention and Recycling built in 2005 has led to the revision of the Waste Framework Directive, the cornerstone of EU waste policy. The review brings a modernized approach to waste management, marking a shift from the perception of waste as an unwanted burden to perceiving it as a precious resource. In order to reduce the amount of waste deposited in the end and to raise the degree of recycling and recovery of recyclable waste more steps are required to be followed, from the reduction of the consumption to the involvement of the whole society in the selective collection of recyclable waste

Directive 2008/98 / EC focuses on the prevention of waste production and sets new goals that will help the EU to move towards its goal of becoming a recycling society, a healthy society. It includes targets for recycling 50% of household waste for the EU Member States by 2020. Therefore, each local public administration must engage directly, by providing the necessary infrastructure necessary for the selective collection and indirectly by participating to the public awareness and its involvement in achieving the proposed targets. Analyzing the European provisions on waste management transposed into Romanian legislation we have highlighted some important elements.

2. Important elements of EU waste management provisions transposed into national legislation

2.1 National strategic planning documents

In order to achieve the recycling targets and also to promote the sustainable development in every European country overall it has its own legal and strategic planning frameworks in terms of selective collection, all these documents being in line with European directives.

National Waste Management Strategy 2003-2013 was the document that was the basis for drafting the National Plan for Waste Management in 2004, both documents being approved by the Government Decision 1470/2004. These two documents have set the benchmark in drafting the County Plan for Waste Management in Bihor and the feasibility study for carrying out the project Integrated Waste Management System in Bihor County. In 2013 it was developed and approved by Government Decision nr.870 / 2013 the National Waste Management Strategy 2014-2020 in which one of the overall goals is to direct Romania to a "recycling society".

2.2 Selective collection and waste disposal

The selective collection of packaging waste is done according to art. 11 of the European Directive 2008/98 / EC through colors collection schemes. Thus, for the plastic waste yellow containers are used, for paper and cardboard waste blue containers and for the glass waste green containers.

Disposal must be carried out safely, in compliance with Directive 2008/98 / EC and Directive 1999/31 / EC.

In addition, according to Law No. 211/2011 on waste regime the following are stated "ART. 19 (1) Waste producers and holders of waste are obliged to operate the waste which have not been capitalized to a disposal operation in safe conditions, complying with the requirements of Art. 20. (2) Authorized economic operators in terms of environmental protection for waste disposal activity shall: a) ensure the total elimination of waste delivered to them; b) use the best available techniques not entailing excessive costs for waste disposal; c) to place and fit waste disposal facility in a place and under conditions determined by territorial authorities responsible for environmental protection; d) to introduce the waste only in the disposal facility specified in the authorization issued by the competent authorities and comply with the disposal technology approved by them. (3) The abandonment of waste is prohibited. (4) Disposal of waste outside the premises authorized for this purpose is prohibited.

ART. 20 Waste management should be carried out without endangering human health and without harming the environment, in particular: a) without incurring risks to air, water, soil, plants or animals; b) without causing discomfort through noise or odors; c) without adversely affecting the countryside or places of special interest. "

In order to reduce the amount of waste by Government Emergency Ordinance no. 196/2005 regarding the Environmental Fund, with subsequent amendments introduced the objective of reducing by 15% the amount of waste disposed of through landfills of household and similar wastes collected through public service sanitation applicable to local authorities responsible for organizing and managing the locally generated waste management process in their administrative territory.

In case of prohibitions applicable landfills we can mention the following: it is forbidden the disposal by land filling of packaging waste, except those resulting from selective collection or sorting processes, which are not recoverable or that cannot be incinerated in incineration installations with energy recovery.

2.3 Recycling

Much of the waste that can be discarded are recycled. Recycling reduces the amount of going to landfills, while reducing the volume of materials obtained from the natural environment. This is important because Europe is dependent on imports of rare raw

materials, and recycling provides the EU industries essential resources from waste, such as paper, glass, plastic and metals and precious metals extracted from used electronic devices.

The EU policy on waste intends them to be used as much as possible as raw materials for new products. Also, by recycling energy saving is achieved: for example, by recycling one aluminum can about 95% of the energy required to produce the same box of raw materials is saved. The EU has set recycling targets for many types of waste, including old vehicles, electronic equipment, batteries and packaging, household waste and construction and demolition waste.

The Member States including Romania strive to implement systems to ensure the achievement of these objectives. These systems include the Extended Producer Responsibility, attributing to producers responsibility for the entire lifecycle of products and the packaging they produce, including the last stage of the life cycle when they become waste.

Also, individuals play an important role. In many Member States, local residents are urged to separate different types of waste materials (glass, paper, plastic, metal, garden waste, etc.). This approach helps to achieve the highest possible quality of materials at the end of the recycling stage, maximizing the value of materials and increasing the number of products that can be made from them.

3. Challenges regarding the selective collection of recyclable waste in Romania

3.1 Targets of waste selective collection

Waste producers and local public administration authorities have the following duties, in accordance with European Directive 2008/98 / EC transposed into Romanian legislation by Law 211/2011 on the regime of waste:

a) to achieve, by 2020, a level of preparation for reuse and recycling of at least 50% of the total amount of waste, such as paper, metal, plastic and glass from household waste and, if the case, from other sources, to the extent that these waste streams are similar to waste from household waste;

b) to achieve, by 2020, a level of preparation for reuse, recycling and other material recovery operations, including backfilling operations using waste filler to replace other materials, of minimum 70% of the quantities of non-hazardous waste from construction and demolition activities (Law 211/2011 Article 17)

By the amendments brought to GEO no. 196/2005 regarding the Environment Fund Administration, starting on 1 July 2010 was introduced the contribution of 100 lei / ton owed to territorial administrative units in case of failure of the annual target of reducing by 15% the amount of household and assimilated waste, collected and sent for storage. The payment is made for the difference between the amount corresponding to the annual reduction target and the amount corresponding to the target actually realized through specific activities for the selective collection and recovery. Thus, local public administrations are directly co-interested in the implementation of integrated waste management systems and consequently of selective collection systems.

To achieve the collection targets but also to stimulate the citizens to collect selectively by Law Nr. 132 of 30 June 2010 the selective waste collection in public institutions in Romania was imposed.

3.2 Research regarding the selective collection in Bihor County and Oradea Municipality

In the Integrated Waste Management System, Bihor county is divided into six collection areas: Area 1 Oradea, Area 2 Aleșd, Area 3 Salonta, Area 4 Beiuș, Area 5 Marghita, Area

6 Săcuieni.

Each area will benefit from sorting and transfer stations, as follows:

Area 4 Beiuș, Area 5 Marghita and Area 3 Salonta (built in the project with the same title Integrated Waste Management System in Bihor County and funded through the Sectoral Operational Programme Environment 2007-2013.

Area 6 Săcuieni and Area 2 Aleșd are the beneficiaries of investments on sorting stations construction, Valea lui Mihai, PHARE - CES 2005 and the Environmental Fund for Aleșd, both of which being erected and functional.

In Area 1 Oradea was built in 2005 and is functional the ultimate ecological warehouse operated by a private company Eco Bihor SRL. Also, on the Eco Bihor platform there is currently a sorting station and will benefit through project from the construction of an MBT station that will serve the entire county.

We conducted a research based on interview at the company Eco Bihor SRL. The questions focused on issues related to selective waste collection in the county of Bihor and in Oradea in particular, the quantities selected and recycled, the way in which the Integrated Waste Management is implemented.

Thus, only in Oradea area the separate collection of waste is done according to the requirements of Law of localities sanitation service no 101/ 2006 modified and completed by Law No.99 / 2014, the wet waste respectively (which is stored, partially or finally and is used to getting compost) and dry waste (consisting of mixed recyclable waste).

Partly in Oradea the selective collection of recyclable waste is done in containers by color. Thus, the local Oradea administration arranged in year 2012-2013 in the areas of blocks 800 platform for the selective collection of household waste collection, 550 being platforms for the collection of separate wet and dry waste and 250 being platforms for collecting according to the type of waste the recyclable waste. The sanitation operator RER Ecologic Service collects all the waste from Oradea and transport it to Eco Bihor SRL for the recovery of recyclable waste and the final disposal of waste not covered by recycling.

In the rest of the county the household waste is collected mixed, just in Aleșd and Valea lui Mihai there is first a sorting in two types, wet and dry and then from the dry waste it is selected the recyclable waste for recovery. The data provided in the interview conducted to Eco Bihor SRL show a continuing increase in household waste over the last four years and also a slight increase in the amount of recyclable waste selected from the total amount.

Year	2011	2012	2013	2014
Total of mixed household waste (tons)	62,426	69,647	69,822	78,548
Introduced recyclable waste (tons)	1,451	4,381	5,217	4,128

Source: Eco Bihor SRL Oradea

We attribute the increase since 2012 of the amount of recyclable waste entered in the environmental warehouse Eco Bihor to the involvement of Oradea municipality in terms of building the 800 platforms for the selective collection in the area of blocks of flats of the municipality. We can notice that the duties of local administrations to diminish with 15% the amounts sent for final storage are not fulfilled.

Conclusion:

In this paper we analyzed, synthesized and produced a synthesis of elements from the Romanian and European legislation, the role of central and local authorities and also that of the population in the field of selective recyclable waste collection and we compared it to

the current state of implementation of selective collection in Bihor County. The selective collection and recovery of recyclable waste represents a prerequisite for sustainable development. The strategic programming documents, the transposition of European directives, the involvement of local and central authorities and the public awareness are conditions in achieving the collection targets proposed by Romania on the road to a "recycling society". The completion of the project "Integrated Waste Management System in Bihor County" by building and commissioning of all transfer and sorting stations will help increase the quantity of recyclable waste collected and thus to achieve recycling targets.

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