

WASTE MANAGEMENT WITHIN THE CONTEXT OF WASTE MANAGEMENT NATIONAL STRATEGY (WMNS) AND REGIONAL WASTE MANAGEMENT PLAN (RWMP) FROM CENTRU REGION

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Abstract: *This paper approaches an issue of current interest, namely the appropriate waste management. The instruments through which the European Union policy in the field of waste management is implemented in Romania are: Waste Management National Strategy (WMNS) and National Waste Management Plan (NWMP). At regional level, the Regional Waste Management Plans have been drawn up by each Environment Protection Regional Agency in close cooperation with the representatives of local environmental authorities and of local and county public administration authorities. From our perspective, the waste management represents an issue that should concern not only the authorities, but also each individual Romanian citizen.*

Key words: *waste, waste management, integrated waste management, WMNS, RWMP, biodegradable waste.*

1. Introduction

In the absence of rigorous environmental policies over the past decades, our country faces, today, serious problems that need immediate action. The fast growing industrialization led to the air and water pollution. The soil and waters are contaminated with toxic chemicals coming from the former factories and mines.

One of the most important issues, which can no longer be postponed, is represented by the fact that a significant quantity of toxic waste was brought to Romania from other European Union countries. Some of this waste was neutralized, some only stored.

Another serious issue is represented by the waste management in the urban areas. The landfills modernization remains a great challenge for Romania, especially due to the fact that our country has got from the European Union a generous period of transition in order to meet its environmental commitments.

The waste management refers to waste collection, transport, processing, recycling and storage. The term refers to those materials produced by human activities and to their harmful effects reduction over the people's health, environment, or a habitat appearance. [7]

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The waste management also aims at saving certain natural resources by re-using the recoverable parts or components.

The waste management becomes more and more a preoccupation for both the local authorities and each individual citizen of Romania.

In occidental countries, the interest for this socio-economic component started several decades ago. Nowadays, the occidental specialized regulatory systems and especially their varied application structures are based on the citizens' action and sense of duty, effect of several programs of information and education in the spirit of protecting the natural resources, the environment in general, the health.

The concept of integrated waste management does not start from the idea of increasing and perfecting the disposal capacities, but from adopting new technologies in order to generate waste in the least and easiest to process possible quantity. [9]

The settlement of those environmental issues caused by waste is possible only if the measures taken are integrated within an efficient waste management system. The basic principles of the integrated waste management are the following:

The principle of prevention, according to which the activities are managed following a hierarchical system depending on the importance: avoiding waste occurrence, minimizing the quantities of waste, recycling, processing by recovery, processing by disposal.

The BATNEEC (Best Available Technique Not Entailing Excessive Cost) principle, according to which the best available methods shall be used, avoiding excessive costs.

"Polluter pays" principle, according to which the costs incurred by the waste management and for the damage done to

the natural environment, shall be covered by the party responsible for producing the pollution.

The principle of substitution which refers to the replacement of current-used materials with other less hazardous materials.

The proximity principle which pleads that waste should be processed as close as possible to the point at which it is generated. The transport (export) is allowed only towards facilities equipped with the technology necessary for procession.

The subsidiarity principle which encourages the initiative of inferior decisional levels, based on uniform criteria.

The integration principle determines that waste management activities shall be integral part of the social-economic activities generating them.

CENTRU Region is located in the central part of Romania, within the curvature of Carpathian Mountains, on the superior and middle flows of Mureş and Olt rivers. It covers 34,100 sq km, representing 14.3 % out of the entire surface of Romania.

At the beginning of 2010, the population number of CENTRU Region accounted 2,524 million inhabitants, the population density being of 74 inhabitants / sq. km. According to the urban population percentage of 59.4 %, CENTRU Region counts among the most urbanized regions of Romania, following Bucharest-Ilfov Region and West Region.

CENTRU Region economy has a balanced structure, with share of industry still important and a tertiary sector in fast growth.

The industrial profile of the region is granted by machine construction, metal processing, chemical, pharmaceutical, construction materials, wood, extraction, textile and food industries. 46% and

around 20% out of the national output of timber, respectively of furniture are obtained in CENTRU Region.

The agriculture faces the beginning of a long and difficult process of modernization and reorganization, intended to lead towards a better effectiveness and capitalization of the important agricultural potential of the region. The services sector has an important contribution to the Gross Domestic Product, with a significant development during the last years. The areas with the highest levels of increase are the transports (especially road and air transports), telecommunications, finance, banking and insurance sector, tourism. [5]

The ancient occupations (specific to several areas of "CENTRU" Region), such as mining, farming of livestock, wood and construction materials exploitation, carried out for centuries in this area, resulted into an intense exploitation of natural resources and, therefore, they led to widespread environmental degradation phenomena. To these traditional activities were added industrial activities that amplified the pollution, generating needless secondary products which, through accumulation, affect the people's comfort and health.

The management system of municipal waste able to be absorbed is influenced by a series of factors: sanitation service coverage, the quantity and composition of waste collected, strictly dependent on the locality size and nature, climate conditions and economic development.

Street waste is both collected and transported by the sanitation companies. Most of the street waste is collected by hand, using rudimentary means. A street sanitation problem in the cities is the insufficient number of street waste bins or containers. For the household and assimilable waste collection, the sanitation agents are fitted with over 95,000 recipients of different capacities: garbage cans, containers, eurocontainers. [2]

2. The European Union policy implementation in Romania in the field of waste management

The instruments throughout which the European Union policy in the field of waste management is implemented in Romania are: Waste Management National Strategy (WMNS) and National Waste Management Plan (NWMP). [8]

The Waste Management Strategy represents the frame that determines the objectives of Romania in the field of waste management; it creates the necessary framework for developing and implementing an integrated waste management system, efficient both ecologically and economically; it applies to all types of waste.

The National Waste Management Plan is the implementation plan of the strategy throughout which the actions that shall be undertaken for the accomplishment of the strategy objectives are set out.

WMNS has been drawn up for the period between 2003 and 2013, being revised from time to time, according to the technical progress and environment protection demands.

NWMP has been drawn up on the basis of the Waste Management National Strategy and of data related to waste, as well as of the needs identified within the county waste management plans established by territorial authorities for environmental protection. These instruments are subject to the revision process at present.

The goal of the regional waste management plans is to create the framework necessary to achieve the waste management objectives, an imperative condition for ensuring the EU financial support.

The regional waste management plans have been drawn up by each Environment Protection Regional Agency in close cooperation with the representatives of

local environmental authorities and of local and county public administration authorities.

The regional waste management plans are revised once every 5 years or whenever needed on the basis of the annual monitoring report and of the methodology for preparing regional and county waste management plans.

3. The Regional Waste Management Plan of Region 7 - CENTRU (RWMP)

The regional waste management plans hold a key role within the development of a sustainable waste management. Their main objective is to present the waste flows and the options available in their management. The waste management plans present the planning framework for the following items: the compliance with the waste policy and achieving the aimed targets; determining the capacities needed for waste management – the waste management plans present the waste flows and quantities which shall be collected, recycled, processed and/or disposed; the control of technological measures – the presentation of waste flows ensures the identification of areas where technological measures are needed in order to eliminate or minimize certain waste types; the presentation of economic and investment requirements – the waste management plans settle a starting point within the process of determining the financial requirements for the application of waste collection, recycling, processing and disposal schemes.[1].

The regional objectives and targets shall reflect the waste hierarchy compliance, giving a significant importance to waste prevention and promotion of reuse, recycling and valuation, so that the negative impact on the environment is reduced.

The objective must be harmonized with the National Waste Management Plan (NWMP) and Strategy.

Among the most important objectives of RWMP of CENTRU Region we mention the following: to develop the regional policy in order to implement an integrated waste management system; to adapt and develop the institutional and organizational framework for the purpose of meeting the national requirements and getting compatible with the European structures; to create and use economic-financial systems and mechanisms for waste management in compliance with the general principles, especially the “polluter pays” principle; to promote systems of information, awareness and motivation for all parties involved; to maximize the prevention of waste generation; to promote the waste processing in order to ensure a rational ecologic management; to reduce the quantity of packaging waste disposed through valuation; to dispose the waste according to the legal provisions applicable in the field of waste management for the purpose of protecting the population and environment health.

4. Municipal waste generation forecast for Region 7 – “Centru”

Waste generation represents both a threat for CENTRU Region and an opportunity for eco-businesses which may capitalize the biodegradable part of it (fig. 2).

According to the forecasts performed within RWMP - “Centru” Region, the amounts of waste for the following years will witness a slight growth (fig. 1); however, the amount of generated and uncollected waste will continue to decrease in the future. This situation will occur thanks to both the encouragements for selective waste collection and use of recyclable materials in packaging. A part of the businesses of the future will be based on such waste collection.

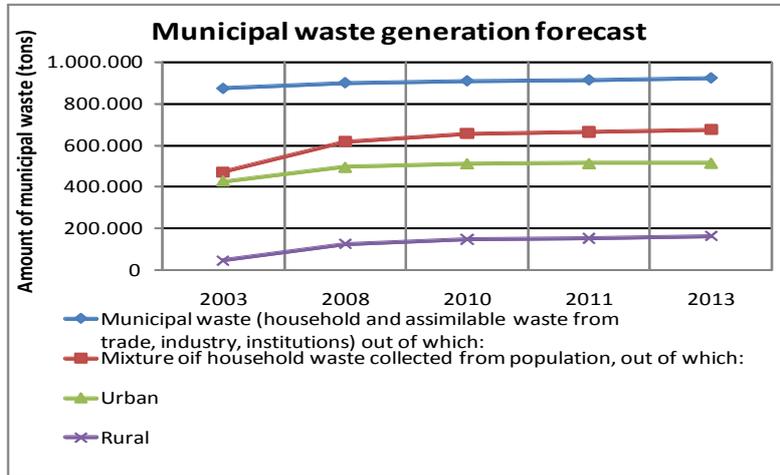


Fig. 1. Municipal waste generation forecast

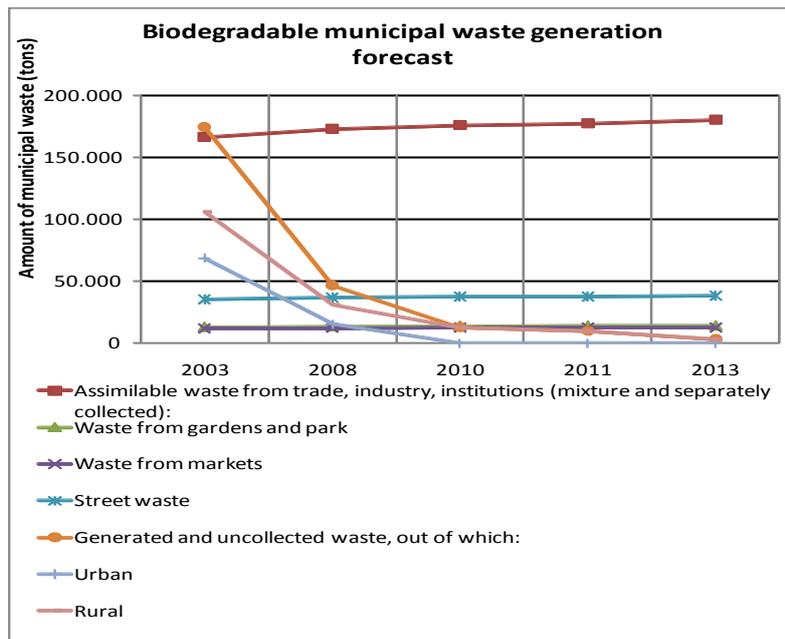


Fig. 2. Biodegradable municipal waste generation forecast

The funds allocated for environment sector of Romania by the European Commission, for the period between 2007 and 2013, raise to over 5.6 billion Euro. This financing source comes from two EU funds – European Regional Development

Fund (ERDF) and Cohesion Fund (CF). The strategy and distribution of these funds on environment sectors is accomplished within the Sectoral Operational Programme for Environment (SOP Environment).

These financing sources may be accessed by the entrepreneurs who will develop the eco-businesses of the future, based on the biodegradable waste.

We end this article with the advice of Kriton Arsenis, Greek Euro parliamentary, related to the population awareness regarding the powerful impact on the planet's future of the amount of waste that is generated: "We must be aware of the fact that our everyday choices have a powerful impact on the environment, and they suppress the fundamental right of future generation to common resources. We should consume less, reuse, recycle, reduce the amount of garbage generated, reduce the amount of energy consumed and use as often as possible the public transportation and not the private vehicles".[6]

References

1. Agenția Regională pentru Protecția Mediului Sibiu: *Planul regional de gestionare a deșeurilor, Regiunea 7 CENTRU*.
2. *Planul de dezvoltare al regiunii CENTRU pentru perioada 2007-2013*.
3. *Planul Național de Gestionare a Deșeurilor*. (PNGD)
4. *Strategia Națională de Gestionare a Deșeurilor*. (SNGD)
5. *ADR-CENTRU*. <http://www.adrcentru.ro> accessed July 9, 2011.
6. <http://corinalebedinscaia.wordpress.com/2011/03/30/managementul-deseurilor-marea-problema-a-romaniei/> accessed July 9, 2011.
7. <http://www.ecomii.com/ecopedia/waste-management> accessed July 9, 2011.
8. <http://www.mmediu.ro/> accessed July 9, 2011.
9. http://ro.wikipedia.org/wiki/Gestionare_a_de%C8%99eurilor accessed July 9, 2011.