



Analysis of Changes in the Waste Management System - Requirements of the EU and National Regulations.

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Summary

The paper presents the method and the reasons for the EU regulations referring to municipal wastes in Polish legislation.

Keywords: Waste Act, Landfill Directive, Packaging Directive, Waste Incineration Directive, Framework Directive, Act on maintaining cleanliness and order in municipalities, waste management.

Introduction

Municipal waste management has been a problem for many years. New legal and systemic attempts were made to improve the situation in this area. It was decided to change the waste management system, as the former one did not meet the expectations.

According to the new system, the local government becomes responsible for the collection and proper management of wastes. This way the municipality has an impact on every component of this system.

Wastes have made a daily element of human life since the beginning of humanity, however, with the development of industrialization in 19th and 20th century they made bigger and bigger problem and their influence in natural environment became more and more important. The classification of wastes can be carried out in various ways, here is an example.

Basically wastes can be defined as liquid or solid substances and materials that were made as an effect of human activities and are useless in their present form and not neutral to the environment. Obviously the vast majority of wastes can be recycled, making a valuable source of secondary raw materials. Nevertheless, most wastes are deposited in landfills or incinerated in incineration plants.

The residents of Poland annually produce about 10 million tons of municipal wastes, which makes about ok. 300 - 400 kg (depending on the place of residence - in large cities more wastes are produced). It is predicted that within a few years the amount of wastes, mainly packages will be growing [1].

Definitions, necessary in the presentation of municipal wastes:

Municipal wastes - substances or objects produced

in households (excluding the out-of-use vehicles), as well as wastes without hazardous components, coming from other waste producers, which, because of their character or composition are similar to household wastes.

Selective waste collection – collecting wastes in a way that facilitates specific processing of each type of wastes, includes wastes characterizing the same properties and characteristics.

Green wastes - municipal wastes making parts of plants, coming from maintenance of parks, gardens, parks and cemeteries, as well as open markets, excluding wastes coming from street cleaning.

Hazardous wastes - wastes, which due to their type, composition or amount have dangerous properties and, if mishandled, can pose threat to human and animal health and environment; such as batteries, halogen lamps or bulbs, medicines with expired date, oils, greases, asbestos wastes etc.

Treatment - processes of recovering and/or neutralization, including preparation before the recovering or neutralization.

Recovering – the use of wastes in total or partially, as well as recovering from the wastes substances, materials or energy.

Recycling – a form of recovering involving renewed treatment of substances or materials contained in the wastes to obtain substances or materials, which can be reused. Composting is also a form of recycling [2].

New system of municipal waste management

In the new system of the management of municipal wastes the municipality (gmina) will have an influence on every its element and owing to this will be

able to form the way of the municipal wastes management in their area. Nevertheless, at first every municipality will be obliged to organize a system of municipal waste management, according to the regulations of the law and local conditions. The lawmaker, due to the transition regulations, indicated the order of introducing subsequent stages of the new system. A new duty of the municipality, already in power since the law came in power in doing an annual analysis of the state of municipal waste management. This analysis should verify technical and organizational municipality in the area of the possibilities of the treatment of municipal wastes, investment needs, costs of the system of municipal waste management. It has to provide information on the number of residents, number of the owners of real estates, who fail to fulfil the duties defined in the law, as well as the amount of municipal wastes produced in the area of the municipality, and in particular mixed municipal wastes, green wastes and wastes remaining after sorting, which are meant to be deposited. The analysis is to provide necessary information to make a system of municipal wastes management. [3]

The accepted solutions emphasize the importance of waste management. It is important not only to remove wastes smoothly from the real estate where they were produced; it is also highly significant what the way of further waste management will be. These solutions are similar to the applied in the majority of European states, where for the municipal waste management local authorities are responsible. They order waste collection and management to the companies belonging to the municipality or companies elected in the auction, and the costs of the functioning of the system are covered by the payments taken directly from residents. This way all the residents are covered by waste collection and jointly financed by removal and management. Due to this they do not have any reason for illegal waste disposal.

Due to the scale and complexity of these solutions, their efficient implementation is undoubtedly an uneasy task. The time for the implementation of the reform is often assessed as too short, and many accepted regulations are criticised for the lack of precision. The effect of the encountered difficulties was the carried out in January this year amendments of the law on the maintenance of tidiness and order in municipalities (Dz.U. position 228). A part of the regulations became even the subject for the Constitutional Tribunal (Trybunał Konstytucyjny), continuing to await the solution. One has to be aware that the objection and doubts will not quickly disappear and will probably exist for a long time after the implementation of a new

system. Nevertheless strategic decisions have already been made. Describing the accepted system it is worth to refer to some of its features. [4]

One of the reasons for the change of the system is the necessity to meet growing requirements of the EU law referring to wastes. The purpose of the EU policy is today not only prevention of hazard to humans and environment, but to greater and greater extent to effective use of resources. This first of all means avoiding producing of wastes and maximal use of the resources contained there. From this point of view it is important to influence the whole life cycle of products: apart from possible ways of safe neutralization wastes, more and more important becomes the proper designing and production processes, the possibility of the remediation, reuse as well as dismantling and recycling.

Directive 2008/98/WE in case of wastes - a basic in this area legal act of the EU, defined the expected hierarchy in the waste. It says that the most important is reduction in the production of wastes, their reuse and later on recycling or other processes of recovering (e.g. incineration with the use of energy). The last in this hierarchy, the least desirable way of waste neutralization is their deposition on the landfill. To implement this order of procedures, in the directive there are concrete objectives referring to the recycling or reduction of waste disposal. One of them is the objective to achieve by 2020 the level of recycling and reuse in the level of at least 50% of the mass of such fractions of municipal wastes, such as paper, metals, plastic and glass. Another important obligation (resulting from Directive 99/31/WE in the case of waste disposal) is gradual limitation of biodegradable wastes deposited in landfills: the municipalities had a duty to achieve, up to July 2013, the level of such waste deposition not higher than 50% of the amount produced in 1995 (in July 2020 this level should not exceed 35%).

Now, in EU there is an audit of regulations referring to wastes. Its effects will be known in 2014, then some requirements are expected to become stricter. The press suggests that they can refer to e.g. further increase the level of recycling and ban of depositing on landfills any recyclable wastes.[5]

The law of the EU in the area of wastes does not say what the system of municipal waste management should be like, if should be based on the rules of free market or rather strictly regulated. From the point of view of the EU objectives the implementation of the following goals are important: in case of municipal wastes this is achieving a certain level in the reduction the amount of the deposited wastes and the level

of recycling of various groups wastes that could be reused. The practice of the recent years, however showed, how difficult it is to fulfil the requirements of the system implemented so far. Its radical change should allow the management of wastes and accelerate the implementation of the objectives of EU policy.

Apart from the local dimension, the introduced reform has its regional dimension, too. The additional duties of the municipality are the solutions referring to the functioning on the market of waste management business on the level exceeding the local level. Their purpose is the creation of the conditions for the development of the integrated network of the facilities for waste processing. It refers to four forms of treatment: thermal treatment, mechanic and biological treatment of mixed wastes with the separation of recoverable fractions, presenting selectively collected green wastes and other biowastes and deposition of unrecoverable wastes. To make these facilities function without problems and be profitable, they have to provide an adequate amount of waste inflow. The questions of balancing the available amount of wastes referring to existing and planned efficiency of the facilities were answered by the voivodeship councils (sejmiki wojewódzkie) in voivodeship plans waste management agreed in the half of 2012. In these documents the voivodeships were divided into the regions of municipal waste management, with the indication of the municipalities of the region (each region covers the area of at least 150000 residents). For each of them regional facilities for the treatment of municipal wastes (so-called RIPOK) and substitute facilities were made and used until the time of the implementation of the regional treatment facilities or in case of the failure. Determining RIPOK, apart from high technical and environmental standards, it was assumed that the efficiency of such facilities should enable the treatment of wastes coming from at least 120 thousand residents. The voivodeship plans contain also a schedule of closing down facilities (including landfills) not meeting the requirements of environmental protection and the modernization of which is not possible (for technical or economical reasons).

The introduced regionalization allows fulfilling the proximity principle, crucial in the waste management. This principle requires the neutralization wastes as close to the place of production as possible, mainly to avoid hazard connected with waste transportation. Thus the company taking wastes from the owners of real estate will be obliged to hand them to the indicated regional facilities. This duty refers only to mixed municipal wastes, green wastes and meant to be deposited on landfills. Wastes segregated „at

source” and recyclable (glass package, paper, plastic of metals) are not subdued to the proximity principle and can be managed beyond the network of facilities indicated in voivodeship plans. However, according to the hierarchy of dealing with the wastes should get directly to the enterprises dealing with recycling and recovering (glass factories, plastic treatment factories, paper factories, thermal facilities providing the recovery of energy).

Resolutions in case of carrying out voivodeship plans have already been put in power. First months of their functioning showed that there are problems with a proper interpretation of the role of regional facilities and temporary surrogate facilities (e.g. during the open tenders announced by the municipality, the indication of Regional Installation of Municipal Waste Treatment, as desirable places of waste management is questioned) [6]. There are also situations, when regional waste companies, using their privileged position, artificially increase prices for receiving wastes (anti-monopoly legal actions at the moment is carried out by the delegator of the Office of Competition and Consumers Protection in Wrocław).[7]

The Law introducing the reform, in art. 6h obliges the owners of real estate to pay to the municipality the fee for municipal waste management. The fee is unavoidable and refers to all the residents. The law maker assumed that we all produce wastes, thus everybody should participate in costs. Compared to the applied system, the stress was put on the problem of management: the collected fees municipality must cover costs of the functioning of the whole system (reception, transport, recovery and neutralization, making and maintaining the points of selective waste collection and administration services). Thus fees paid by the residents will be generally higher than so far. Comparing the level of fees, one should remember that a new system should cover all the real estate owners in the municipality (so far it was not the case), probably the amount of the collected wastes will grow. Moreover, the collected so far fees of residents did not consider considerable costs of removing illegal landfills, which made burden for the budgets of public institutions. For example, the information presented by the State Forests National Forest Holding says that over the last years for this purpose 15 to 20 million zlotys annually were spent.

On the other hand it is worth noticing that the more people included into the system of common fees, the lower the mean fee should be. Moreover: the more efficient selective waste collection (allowing the sale of segregated secondary resources), the lower the general cost of the system functioning is. Preliminar-

ily defined by the municipality fees are verified by the tender, because it happens that the offer of the winning company shows the lower sum lower than the planned by the municipality.

Preparations to implement the system are not without problems. Much controversy brings the question of defining the fees. Tensions were slightly reduced by the accepted in January 2013 amendments accepting more flexible rules of deciding fees. Still unclear remains the matter of enforcing responsibility for the lack of the segregation of wastes in multi-family buildings (if the resident's community declares selective waste collection, and if some residents fail to meet these requirements, all of them will be penalized by the increased costs of the reception of wastes). Numerous objections have been brought by the General Inspector for the Protection of Personal Data about the prepared by the municipality and filled in by residents, forms of declaration about the wastes, sometimes containing questions breaching the rules of the protection of personal data. Many of these problems will have to be solved in the course of time after of the implementation of the new system. [4]

According to art. 6d passage 1 of the law, the head of the municipality or city mayor is obliged to organize a tender for the reception of municipal wastes (or their reception and their management). If the municipi-

ality counts above 10 thousand residents, the municipality council can make resolution on the division of the area of the municipality into sectors. Then the tender is organized for each sector. This solution of the law maker has serious consequences for the functioning transporting enterprises. In practice this means that only the largest enterprises have chance of taying on the market, the other will probably disappear. The stake for them is great, thus the preparation for the tenders today draw attention of waste management enterprises.

Crucial for the course of the tender procedure is specification of important conditions of the order – the document defining the range of the order and the conditions for the future implementers. The rules referring to making this document are often defined as unclear and not very precise [8]. Maybe for this reason in many municipalities tender procedures are prolonged. According to the estimations of the Ministry of Environment, at the end of April, 2013, nearly the half of the communities have not announced the tenders. Taking into account the complication of the procedures and the possibility of application against the decision, one can fear that a part of them will not make their decision before the implementation of a new system.

The doubts are also connected with the lowest price as the fundamental criterion of choosing the

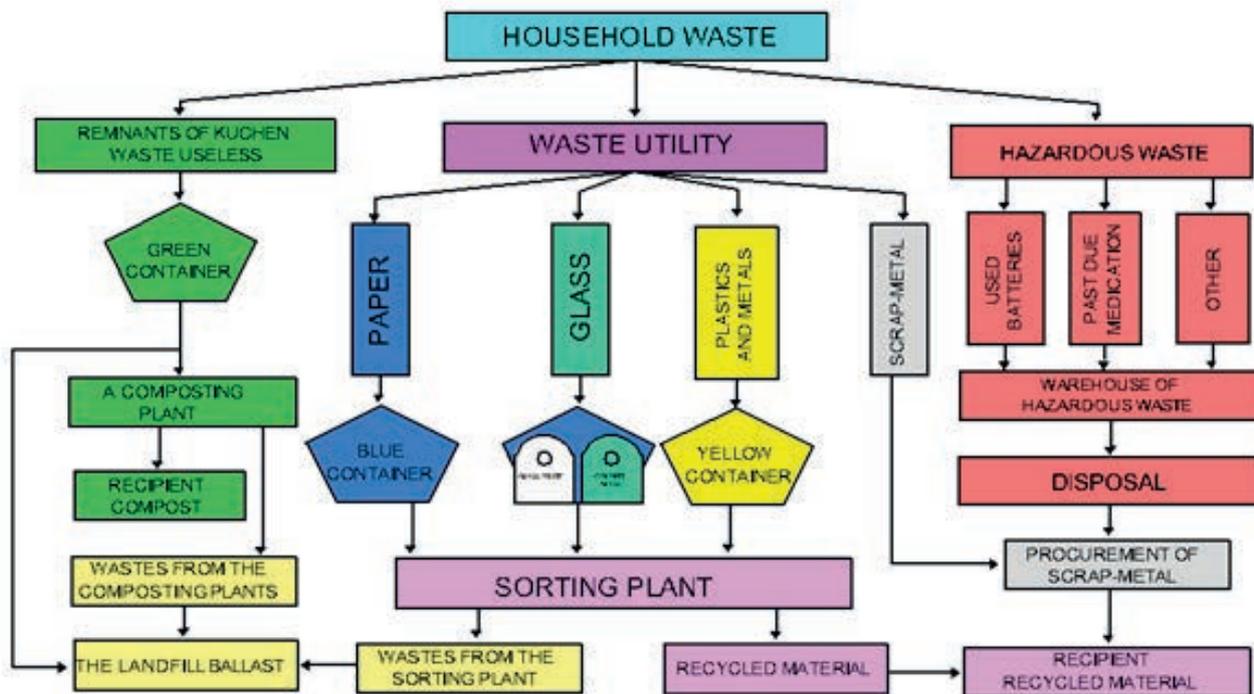


Fig. 1 The division of municipal wastes [10]

Rys. 1 Podział odpadów komunalnych [10]

company. There is a risk that companies chosen this way that will not be able to fulfil new requirements. The effect can be the development of the grey area and the growth of the threat to the environment. This problem has recently been raised in the letter to the Government written by the biggest chambers connected with the waste management [9].

Legal Regulations

EU legislation the field of municipal waste management.

In Poland, on 23rd January 2013, the amendment to the Act on waste with a view to the implementation of the Polish legal system of EU regulations in particular Directive 2008/98/EC setting out such desirable waste hierarchy.

The implementation of the principles of sustainable development, efficient use of resources and environmental protection are priorities in EU policy, reflected in the law of EU.

The implementation of these principles in the field of waste management is carried out with the following legal acts at the level of the European Union:

- The Landfill Directive (99/31/EC) - the aim of this Directive is to prevent or reduce as far as possible the negative environmental effects of waste disposal for the entire cycle of the landfill, in particular the pollution of surface water, groundwater, soil and air, and on the global environment, including the greenhouse effect, as well as any risk to human health. The means are strict operational and technical requirements in the waste management and construction of landfills, as well as designing proper procedures and rules of conduct [11].
- The Packaging Directive (94/62/EC) - Directive aims to harmonize national measures concerning the management of packaging and packaging waste in order to prevent any impact on the environment of all the Member States and third countries or to reduce such impact, thus providing a high level of environmental protection. The second goal is to ensure the functioning of the internal market and to avoid obstacles to trade and distortion or restriction of the competition within the Municipality. The Directive establishes measures aimed primarily at preventing the production of packaging waste and, as additional fundamental principles, at reusing packaging, recycling and other forms of recovering packaging waste and thus reducing the amount of waste finally disposed [11].
- The Waste Incineration Directive (2000/76/EC) - The purpose of this Directive is to prevent, or reduce as far as practically possible, negative effects on the environment, in particular emissions of pollu-

tion to air, soil, surface water and groundwater, and diminishing the resulting risks to human health caused by the incineration and co-incineration of wastes.

This will be achieved by means of stringent operational conditions and technical requirements, through setting emission limit values for plants incinerating or co-incinerating waste within the Municipality, as well as the way to meet the requirements of Directive 75/442/EEC. The objectives of the Directive 75/442/EEC are “wastes”, which means any substance or object which the holder disposes or should dispose in accordance to the applicable national law and the “disposal” means: collection, sorting, transport and treatment of waste as well as its storage and deposition on the surface or underground, as well as activities related to the processing necessary for their re-use, recovery or recycling [11].

- Framework Directive (2008/98/EC) - The specific idea of the Directive is to create legal means promoting the idea of “the recycling society”, trying to avoid waste and using waste as a resource. The implementation of this objective requires first of all segregation “at source” as well as collection and recycling of priority waste streams. Given these assumptions, Art. 4. Of the Directive clearly establishes a slightly redesigned hierarchy of waste management. Such a scheme is intended to indicate the order of priority in legislation and policy relating to waste prevention and management. It includes first, the prevention and further preparation for reuse, recycling and other methods of recovery (e.g. energy recovery) and disposal.

The presented scheme is a basic guideline for the Member States in the design of waste management systems. This hierarchy need not, however, be considered as absolutely binding, the Directive allows some specific waste streams departing from it. It must, however, be justified by the methodology of thinking about the life cycle of the product, the overall impacts of the generation and management of such waste. [12]

Act on maintaining cleanliness and order in municipalities

The amendment imposes on municipalities a deep reconstruction of the existing municipal waste management system and the changes are so substantial that it is justified to talk about a real revolution in the management of municipal wastes.

The new rules apply from 1st July 2013, therefore, the municipality had to:

- revise the applicable local law,
- make new resolutions which are local legal acts,
- organize and implement a new system of municipal waste management.

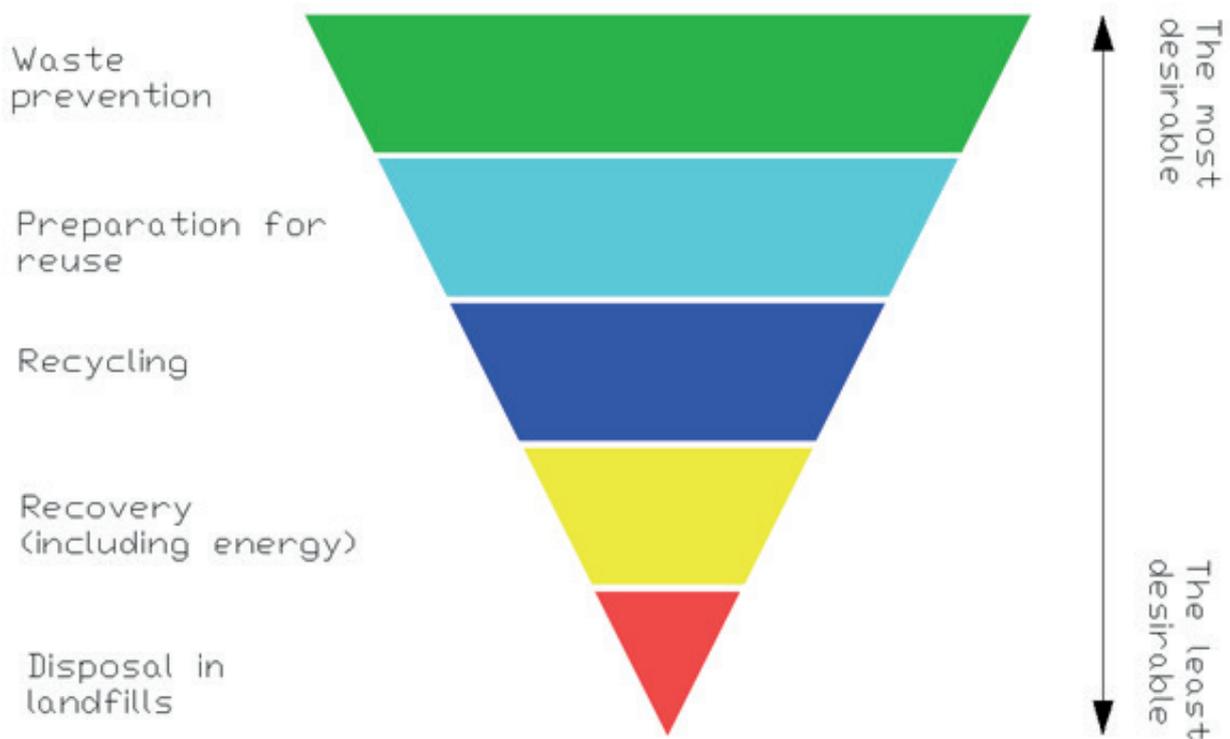


Fig. 2 The hierarchy of the desired way of handling wastes. Framework Directive [10]

Rys. 2 Hierarchia postępowania z odpadami. Dyrektywa ramowa [10]

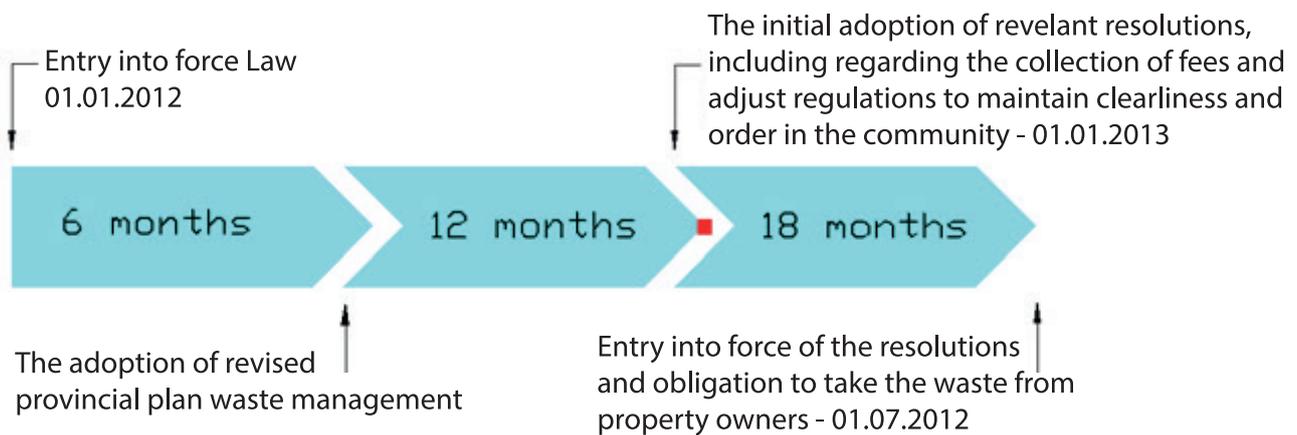


Fig. 3 Implementation of the Waste Act [10]

Rys. 3 Realizacja Ustawy o Odpadach [10]

The objectives of the Act.

The Act defines the tasks and responsibilities of the property owners to maintain cleanliness and order. The main objective of the Act is to seal currently operating municipal waste management system, monitor the management of waste by property owners, businesses and municipalities and to promote selective waste collection.

The most significant change in the relation to current regulations is the mandatory passing the responsibility for municipal waste management from the property owners to the municipality.

The reduction of municipal wastes in landfills is also planned as well as the construction of appropriate installations for the recovery or disposal of wastes [13].

Summary

The following arguments were the reason for the changes in the waste management system:

- The need to implement EU directives - failure to implement the directives would result in large fines,

- Reduction of the landfills, including biodegradable wastes

- Achieving required by Directive 2008/98 levels of preparation of the selected fractions of material from households for reuse, recycling and other recovery methods, ,

- Sealing of municipal waste management system and ensuring separate collection at source

- Elimination of illegal landfills. [14]

Changes in the waste management system resulted in:

- The distribution of selective waste collection, because the level of sustained charges will depend on whether the waste is collected at the source in a selective manner,

- Increasing the number of modern installations for the waste recovery, including recycling and disposal of municipal waste,

- Effective monitoring of waste management, including effective control of the collection and disposal of waste. [14]

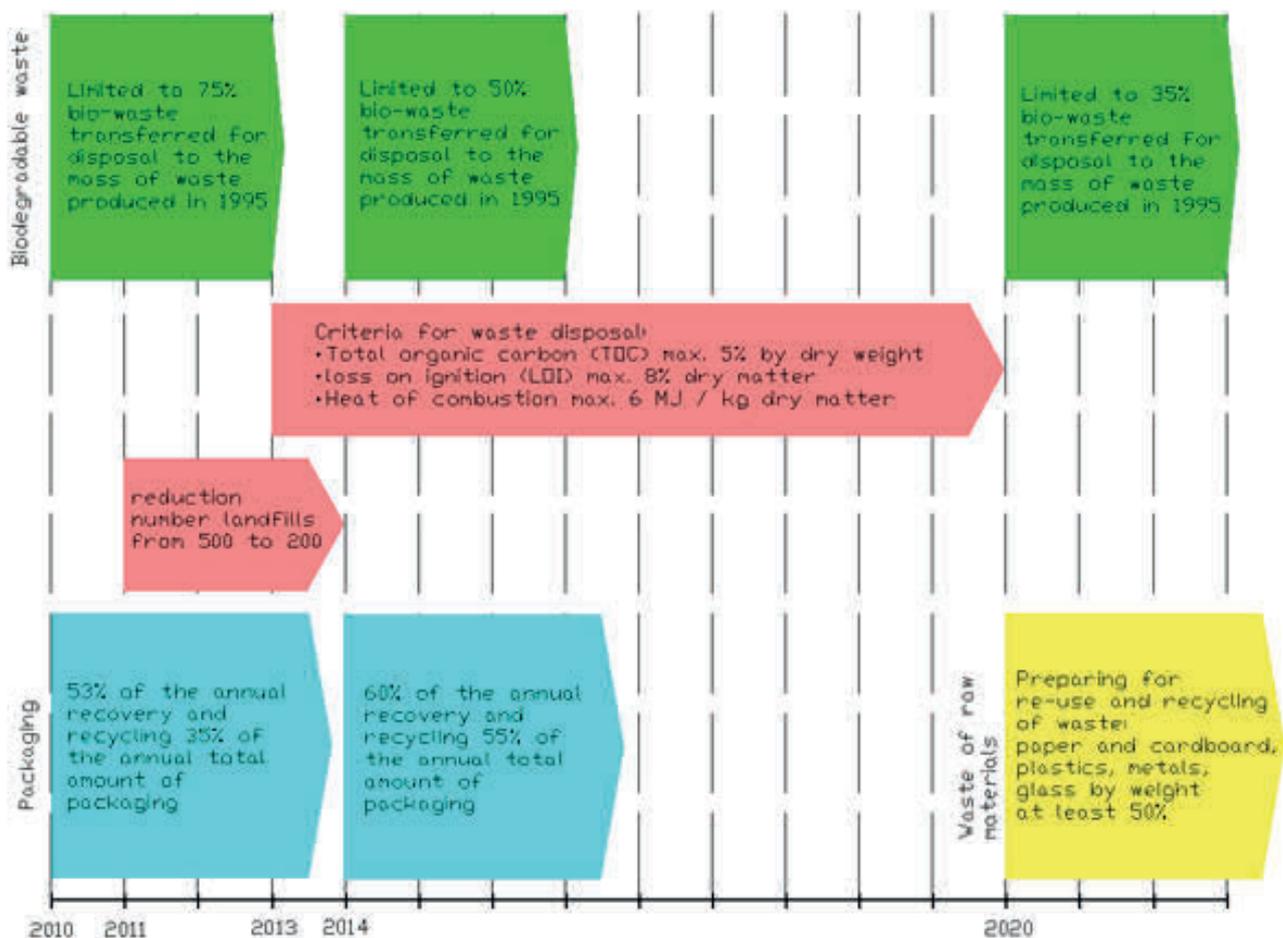


Fig.4 The schedule for the key legal requirements The NWMP and objectives in 2014 for waste management [10]

Rys. 4 Harmonogram głównych wymogów prawnych NWPM i celów gospodarki odpadami do 2014 r.

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Streszczenie

Artykuł przedstawia metody i powody powstania przepisów UE dotyczących odpadów komunalnych w polskim ustawodawstwie.

Keywords: gospodarka odpadami dyrektywa w sprawie składowania odpadów, dyrektywy w sprawie opakowań, dyrektywa w sprawie spalania odpadów, dyrektywa ramowa, ustawy o utrzymaniu czystości i porządku w gminach, zarządzanie odpadami