

**MUNICIPAL WASTE MANAGEMENT
AS A LOCAL GOVERNMENT TASK – LEGAL
AND ORGANISATIONAL CHALLENGES**

Anna Milewska¹, Karolina Bogucka²

¹ Warsaw University of Life Sciences – SGGW, Poland

² Ministry of Economy, Poland

INTRODUCTION

According to Article 6 of the Local Government Act, the scope of local government activities comprises public affairs of local significance that are not reserved by law to other entities. Article 7 contains a list of activities local governments are responsible for, and whose aim is to satisfy the collective needs of the community. These tasks include spatial planning, real estate management, protecting the environment and nature, and water management, to name a few. They also include filtering and removing waste water, maintaining cleanliness and order, sanitary facilities and landfills, and disposing of municipal waste.

The amendment of the Act on maintaining cleanliness and order in municipalities and of other acts [Act 2011], was passed on 1 July, 2011 in Poland and it has had a significant impact on the existing system of municipal waste management. It calls for local governments to create an efficient waste management system in the territories they administer, to be implemented no later than 1 July 2013. The document defines the structure of the system and legitimate tools that make it easier for local governments to provide this public service in accordance with EU standards (guided by the principle of sustainable development).

PLACE OF WASTE MANAGEMENT IN THE THEORY OF PUBLIC SERVICES

The common good is the greatest value established in Polish legislation at every level of government. The responsibility of administrations today is to provide the public with

the necessary minimum of public goods and services. These issues are therefore an important part of substantive administrative law, which plays an enormous role in achieving the common good [Woźniak 2013a]. The importance of the public interest and the common good is also stressed in the definition of public administration, as they are key elements of organisational activities and projects [Blicharz 2004].

Public services can be defined as public goods in respect of which it is impossible to exclude anyone from using them. These goods, regardless of the number of people benefiting from/using them, have a certain value, which is not affected by subsequent users. The services are, therefore, directly provided to the public by the administration in the public sector or by private entities that guarantee a given service. Public services usually need not be paid for, but in today's economy there are benefits, part of the cost of which must be borne by users; however, they remain public services because they realise the public interest. Providing the public access to public services is an inalienable duty of the state, which executes its duties in the public interest. This can be done through the creation of two types of services [Kožuch and Kożuch 2011]:

- classic services (clean) – those produced and carried out using public funds, and which serve the entire local community. They are used collectively – there is no rivalry during consumption, and it is impossible to exclude anyone. Examples include breathing clean air and using public security;
- mixed services (private services supplied by the public sector) – those defined by the basic needs of the population, in connection with the country's current social doctrine and its policies. They can serve the entire community, such as do education and healthcare services. What sets these services apart from purely public services is that they may be partially charged for.

Public services are the interest of the public sector, which consists of the central and the local government (local being provincial, district and municipal and other public sector organisational units). Public services may also be provided by a company, which is often referred to as public or municipal utility. Polish legislation also allows for services to be outsourced to public service entities, private or public benefit organisations on the basis of a public procurement procedure [Dylewski and Filipiak 2005].

The forms in which services are provided within municipal management are clearly defined in the Polish legislation [Stachowicz 2013]:

- the municipality provides services itself, with its own organisational units – either public undertakings or limited liability companies;
- the municipality, on the basis of a civil contract, commissions the services to another entity;
- the municipality organises the provision of services in the form of an agreement with another municipality or inter-municipality association.

As a public service, waste management and the maintenance of cleanliness and order is expensive. This is because there is an attendant need to protect the environment. For many years the people of Poland were not interested in caring for natural resources “at the source”, at their own homes, or in disposing of their household waste. The number of landfills, including wild and illegal ones, shot up because garbage collection costs were high and people simply became accustomed to using them.

Growing consumption has increased the amount of and changes in the structure of waste, which has placed a great burden on the natural environment. Proper waste management is an important element of the comprehensive protection of the common good that is the natural environment. It serves the public interest, and – when possible and legally justified – the interest of the individual [Woźniak 2013b].

CONCEPT AND CLASSIFICATION OF WASTE

In day to day life, the term “waste” is used in a variety of contexts, though it usually comes with a pejorative slant: when speaking of waste, one generally refers to something expendable, broken, or left-over, and which one will no longer use. This applies not only to material uses, but also functional ones (while an object may indeed continue to meet a specific function, for not keeping up with current technologies and trends, it is replaced by a new, better one).

Before considering how waste management works in Poland, a brief look at the statutory definition is in order: it states that “waste” is any substance or object which the holder discards or intends to get rid of or is obliged to get rid of [Act 2012].

This definition, in force in Polish legislation, is in line with the formula used in documents issued by EU authorities and institutions. It is based on the “triad” [Radecki 2013] which applies to substances or objects which the holder discards or intends or is required to discard.

The classification of waste into groups, subgroups and types is done based on the source, properties and ingredients of the waste. According to the current Regulation of the Minister of the Environment [Regulation 2014], every form of waste is assigned to 1 of 20 groups (Table). The regulation also addresses and classifies hazardous waste. Each item in the waste catalogue is assigned a sequence of digits as an identifier, enabling easy reference to the group (first two digits), subgroups (the first four digits) and type of waste (the full chain of six numbers).

The scope of the article covers only municipal waste, so it is necessary to cite the definition in force in the Polish legislation as a starting point for further discussion on managing this specific waste type. In statutory terms, municipal waste is “waste generated in households, with the exception of end of life vehicles, as well as waste containing hazardous waste from other waste generators which, because of its nature or composition is similar to waste from households; mixed municipal waste remains mixed municipal waste, even if they have undergone a waste treatment operation that has not significantly changed their properties”.

The primary sources of municipal waste are indicated to be, above all, households, as well as infrastructural objects and products (trade, services, crafts, education, industry in the “social” and others) [Resolution 2010]. This waste is therefore obviously a major part of the waste generated in municipalities.

Municipal waste can be divided into mixed waste and waste collected selectively, though the catalogue of waste(s) that is binding in Poland presents a different view of municipal waste (group 20), shown in Figure 1.

TABLE. The catalogue of wastes

Group number	Group type according to source of waste
01	Wastes resulting from exploration, mining, quarrying, physical and chemical treatment of minerals
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
04	Wastes from the leather, fur and textile industries
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
06	Wastes from inorganic chemical processes
07	Wastes from organic chemical processes
08	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), sealants and printing inks
09	Wastes from photographic industry and services
10	Wastes from thermal processes
11	Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydro-metallurgy
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics
13	Oil wastes and wastes of liquid fuels (except edible oils, 05, 12 and 19)
14	Waste organic solvents, refrigerants and propellants (except 07 and 08)
15	Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
16	Wastes not otherwise specified in the list
17	Construction and demolition wastes (including excavated soil from contaminated sites)
18	Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
20	Municipal wastes including separately collected fractions

Source: own elaboratory based on the regulation of the Ministry of the Environment of 9 December 2014 on cataloguing wastes (Journal of Laws 2014, item 1923).

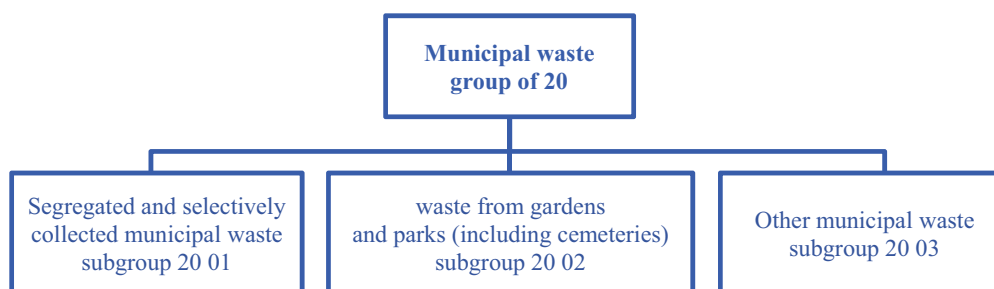


FIG. 1. The division of municipal waste

Source: own elaboration, based on the regulation of the Ministry of the Environment of 9 December 2014 on cataloguing wastes (Journal of Laws 2014, item 1923).

Particular subgroups of municipal waste can include numerous waste types. The subgroup with the greatest number is 20 01 – it contains 31 fractions of selectively gathered waste, including paper and cardboard (20 01 01), glass (20 01 02), plastics (20 01 39) and metals (20 01 40). From subgroup 20 02, the most important waste types are biodegradable ones (20 02 01) while mixed municipal waste is an important form of household waste from subgroup 20 03.

The classification of waste used in Poland is in agreement with the classification [Decision 2000] binding from 2000 on EU territory. The harmonisation of the Polish codification enables the country to more effectively manage the particular groups, subgroups and types of waste in accordance with the guidelines followed by European institutions, and also to achieve results comparable to those achieved by other member countries.

MUNICIPAL WASTE MANAGEMENT IN EU LAW AND ITS TRANSPOSITION IN POLISH LEGISLATION

Law established by the EU creates an autonomous and uniform whole. It is used in all Member States, independent of national law, over which it is paramount and binding [Kalisz 2007]. It is based on the founding Treaties and secondary legislation adopted by European institutions.

EU environmental protection policy emphasizes the idea of looking at problems of the natural resources surrounding us as a whole. It is clearly shown that economic welfare, social justice, and a clean environment are closely linked and to an equal degree lead to an improved standard of life for citizens and balanced growth. This is why so much weight is attached to measures meant to prevent all negative anthropogenic interference. All EU Member States following a single environmental protection policy is advised as all citizens of the union are equal, so each has an equal right to the same level of environmental protection.

By signing, on 16 April 2003, in Athens, an accession treaty with the European Community, Poland became required to follow, on its territory of the Community, legal regulations in relation to which it fell far short. This applies to the country's highly ineffective waste management, including municipal waste management, which has become a priority in the EU's current environmental policy.

The main principles of European waste management identify a number of secondary legislative acts [Rosik-Dulewska 2015]. The most important of them is the European Parliament and Council Directive 2008/98/EC of 19 November 2008 on waste and repealing certain directives. It aims to reduce the burden of the very rapidly growing stream of waste on the environment and to protect human health through effective waste management and the prevention of the negative effects of that waste. The directive has the status of a framework act, meaning its provisions constitute general requirements which can be developed into specific acts, provided they are transposed and applied in accordance with the provisions of the Framework Directive [Directive 2008].

Under its provisions, the countries of the European Union were required, by 12 December 2010, to implement the relevant legal provisions necessary to comply with prin-

ciples of the Framework Directive. The most important for local governments in Poland are provisions for:

- developing at least one waste management plan;
- developing a programme for preventing the production of waste by 12 December 2013;
- establishing by 2015 the selective collection of waste (including paper, metal, plastic and glass);
- preparing waste for reuse and recycling by 2020. That means: a minimum of 50% by weight of paper, metal, plastic and glass from households and possibly other sources from which waste is similar to household waste; and a minimum of 70% by weight of non-hazardous construction and demolition waste.

These quantitative and qualitative requirements grew out of the fundamental problems regulating the Directive, which is to say the waste hierarchy, which “marks the order of priorities in waste prevention and management legislation and policy”. As shown in Figure 2, EU Member States should first take all possible measures aimed at preventing or reducing waste production. Next in the hierarchy is the recovery of waste, which can be achieved by reusing, recycling or recovering recyclable materials from the waste stream. If the first four steps fail to yield results, it is possible to dispose of the waste in a manner that protects the environment and human health [Maśloch 2011]. Only in this way will waste management not cause permanent harm to the environment and allow it to be preserved for future generations.

Council Directive 1999/31/EC of 26 April 1999, also known as the Landfill Directive, contains important provisions on landfill waste. It states that Poland is obliged to reduce the amount of landfilled biodegradable municipal waste to 50% in 2013, and to 35% by 2020, relative, in both cases, to the total weight of these waste types produced in 1995 [Directive 1999].

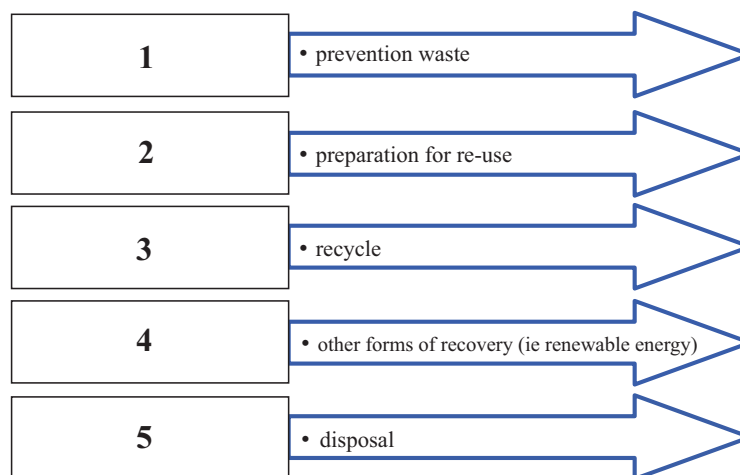


FIG. 2. The waste disposal hierarchy

Source: own elaboration based on Directive 2008/98/WE of the European Parliament and Council of 19 November 2008 on waste and repealing certain directives (Journal of Laws UE L 312 of 22.11.2008, Art. 4 point 1).

The Framework Directive was first transposed into strategic documents. In the Polish legislation this is the Second Environmental Policy, and is valid through 2025. It lays out the following objectives [II National... 2015]:

- to use the principles of balanced growth;
- to integrate the country's approach to environmental protection, considering challenges of responsibility;
- to come into accordance with the European strategy of dealing with waste: preventing the production of waste "at its source"; recovering raw materials and reusing waste and environmentally safe final disposal of unused waste.

The National Waste Management Plan (NWMP) covers a complete range of measures, providing for integrated waste management in the country while also protecting natural resources. It concerns waste both generated by Poland and imported from other countries. The Plan includes a waste prevention programme for individual fractions and a strategy for reducing their landfilling [Guidelines... 2015].

A detailed description of this document is the National Environmental Policy for 2009–2012 with a perspective to 2016 [Resolution 2009], which lays down very similar goals. Note that national environmental policy is passed for four years. However, measures it introduces can be extended a further four years [Act 2001].

Further documents, programmatic in nature, are mentioned in the Framework Directive waste management plans. They are created to achieve the objectives of national environmental policy, with which they must be compatible. In addition, they are developed at both the national and the provincial level. The provincial waste management plans should be consistent with the national ones and realize the objectives contained therein. In addition, waste management plans are updated at least every six years.

The National Waste Management Plan (NWMP) covers a complete range of activities, providing for integrated waste management in the country, while also protecting natural resources. It addresses the waste generated in the country and waste imported from other countries and also includes a waste prevention programme addressed to individual fractions and strategy for the reduction of storage (in landfills).

The National waste management 2014 plan has been binding in Poland since 1 January 2011. It was passed by the Council of Ministers on 24 December 2010 as the "National Waste Management Plan" (M.P. No 101, item 1183).

The Voivodship Waste Management Plan (VWMP) defines the territorial scope for waste management and provides a directory of regional waste treatment plants. It also provides for alternative services in these regions until the RIPOK (the Regional Municipal Waste Processing Facility) programme comes online, and lays down the plan for shuttering plants which do not meet environmental protection requirements and which cannot be modernised.

Following the entry into force on 1 January 2012 of the amendments to the Act, it was necessary to update the VWMP. The plans have become a document separate from the provincial environmental protection programmes. They were, however, tied to the National Environmental Policy and the National Waste Management Plan [Kozłowska 2012].

The next step in transposing community regulations is to draft and pass general, universally applicable legal acts. Poland had extensive legislation covering its range of mu-

municipal services (mostly adopted in the 1990s), but a range of social, political and economic changes makes constant amendments to the legislation necessary.

Currently in force in the Republic of Poland, the laws governing major waste management issues are the following [Rosik-Dulewska 2015]:

- the Act of 14 December 2012 on wastes (Journal of Laws of 2013, item 21, as amended);
- the Act of 13 September 1996 on maintaining cleanliness and order in municipalities (Journal of Laws of 2012, item 391, as amended).

Beyond those, other laws that do not focus purely on waste management are relevant here, their content clearly shows the need for further action:

- the Act of 20 December 1996 on municipal management (Journal of Laws of 2011, No 45, item 236);
- the Act of 8 March 1990 on local government (Journal of Laws of 2001, No 142, item 1591, as amended);
- the Act of 27 April 2001 on environmental protection law (Journal of Laws of 2008, No 25, item 150, as amended).

In addition, in the Polish legislation, there are laws detailing the rules for handling individual groups of waste, including end of life vehicles (ELV), batteries and accumulators, used electrical and electronic equipment and packaging and packaging waste.

RESPONSIBILITIES OF LOCAL GOVERNMENTS IN MUNICIPAL WASTE MANAGEMENT

A detailed description and clarification of the general principles of waste management activities are provided by the provisions of the Act on maintaining cleanliness and order in municipalities. This Act brings top-down guidance for those responsible for directly performing individual tasks, but points mainly to municipalities being responsible for municipal waste management, “Maintaining cleanliness and order in communities is one of the obligatory responsibilities of the community itself” [Act 1996]. This follows from the provisions, dealing with the fact that “the scope of its activity comprises public affairs of local importance” and that “satisfying the collective needs of the community is among a municipality’s responsibilities” [Act 1990]. Hence the government is responsible for the collection and proper management of waste.

The primary aims of the amended act on maintaining cleanliness and order (and other waste management provisions) are to [Guidelines... 2015]:

- establish monitoring and to set/finalise the municipal waste management system;
- reduce the amount of municipal waste, including through selective collection “at source”;
- build modern and environmentally safe technical installations designed for waste recovery (while at the same time eliminating illegal dumps);
- divide the country into waste management regions, with a view to reducing the risk of environmental damage occurring as the result of transporting waste over long distances.

The Act allows for the possibility of entrusting to the inter-municipality association municipal waste management tasks, including resolutions in force in the municipalities

belonging to the association. In this case, changes in the association's statute and a detailed determination of its competences are necessary [Milewska and Czaban 2014]. The Act on maintaining cleanliness and order in municipalities specifies in detail the tasks the municipality is charged with carrying out. It puts at the disposal of the municipal council and its executive bodies a number of legal, economic, oversight and remedial instruments with which it can create a waste management system on the territory it administers. An illustration of this comprehensive toolset is presented in Figure 3.



FIG. 3. Municipal waste management system activities in the administered territory

Source: own elaboration ed basison the Act of 13 September 1996 on maintaining cleanliness and order in municipalities (Journal of Laws 2012, item 391 with subsequent amendments)

The appropriate combination of the above tools makes it possible to create an organisational-technological framework for a system that will enable municipal waste management in municipalities that is in keeping with EU guidelines but does not generate excessive costs [Jaworowicz-Rudolf 2012].

How those municipalities go about using the key legislative instruments for creating such a system will depend on the local governments themselves.

SUMMARY

A “revolution” in the Polish municipal waste management system began on 1 January 2012 when the law [Act 2011] entered into force. Ineffective measures taken at different levels of government have, following legislative amendments, been replaced with complex solutions implemented by the local governments. Changes, though radical, were necessary and resulted from Poland applying provisions of Community law.

According to the law, municipalities own the waste they generate, and therefore only the municipal council has the right to decide how it is to be managed. In the context of the entry into force on 1 February 2015 of subsequent amendments to the law on maintaining cleanliness and order in municipalities, municipal waste management systems have evolved, particularly in terms of “garbage fee” rates.

The maximum fee rates, dependent on the percentage of the average monthly disposable income (total for one person), their impact on the income side of municipality budgets and the evolution of citizens’ environmentally friendly behaviour could all be starting points for further analysis and discussion.

REFERENCES

- II National Environmental Policy, Ministerstwo Środowiska, available at <http://www.mos.gov.pl> [accessed: 18.01.2015].
- The Act of 8 March 1990 on local government (Journal of Laws of 2008, No 25, item 150, as amended).
- The Act of 13 September 1996 on maintaining cleanliness and order in municipalities (Journal of Laws 2012, item 391, as amended).
- The Act of 27 April 2001, Environmental Protection Law (Journal of Laws 2008, No 25, item 150, as amended).
- The Act of 1 July 2011 on Amending the Act on maintaining cleanliness and order in municipalities and some other acts (Journal of Laws 2011, No 152, item 897).
- The Act of 14 December 2012 on wastes (Journal of Laws 2013, item 21, as amended). The Act of 28 November 2014 on amending the Act on maintaining cleanliness and order in municipalities and certain other laws (Journal of Laws 2015, item 87).
- BLICHARZ J., 2004. Kategoria interesu publicznego jako przedmiot działań administracji publicznej (Category of the public interest as a matter of public administration activities), *Acta Universitatis Wratislaviensis, Przegląd Prawa i Administracji* 60, 2642.
- Council Directive 1999/31/EC of 26 April 1999 on landfills (Official Journal of the European Communities 182, 16.07.1999), Art. 5, paragraphs 1–2.
- Commission Decision 2000/532/EC of 3 May 2000 replacing Commission Decision 94/3/EC establishing a list of wastes pursuant to Art. 1 point and Council Directive 75/442/EEC on waste and Council Decision 94/04/EC establishing a list of hazardous wastes in accordance with Art. 1, paragraph 4 of Council Directive 91/689/EEC on hazardous waste (Official Journal of the European Union, O.J. EU 226, 09.06.2000).
- Directive of the European Parliament and Council Directive 2008/98/EC of 19 November 2008 on waste and repealing certain Directives (Official Journal of the European Union, O.J. EU 312, 22.11.2008).
- DYLEWSKI M., FILIPIAK B., 2005. Usługi publiczne (Public services) (in:) S. Flejterski, A. Parnasiuk, J. Perenc, G. Rosa (ed.), *Współczesna ekonomika usług*, Wydawnictwo Naukowe PWN, Warszawa.
- Guidelines. Waste Management in the context of the amended Act on the maintenance of cleanliness and order in Municipalities, Regional Fund for Environmental Protection and Water Management in Warsaw, Marshall’s Office of Mazovia Province in Warsaw, retrieved

- from https://www.mazovia.pl/.../gfx/.../poradnik_gospodarka_odpadami.pdf [accessed: 18.01.2015].
- JAWOROWICZ-RUDOLF A., 2012. Gospodarowanie odpadami komunalnymi jako zadanie gmin (Municipal waste management as a task of municipalities), *Acta Universitatis Lodzensis, Folia Oeconomica* 270.
- KALISZ A., 2007. Wykładnia i stosowanie prawa wspólnotowego (Interpretation and application of the Community law), Wolters Kluwer, Warszawa.
- KOZŁOWSKA B., 2012. Aktualizacja Wojewódzkich Planów Gospodarki Odpadami (Update of Provincial Waste Management Plans) (in:) Z. Grabowski (ed.), *Zarządzanie gospodarką odpadami nowe regulacje prawne*, Polskie Zrzeszenie Inżynierów i Techników Sanitarnych, Poznań.
- KOŻUCH B., KOŻUCH A., 2011. Istota współczesnych usług publicznych (The essence of modern public services) (in:) B. Kożuch, A. Kożuch (eds), *Usługi publiczne organizacja i zarządzanie, Monografie i Studia Instytutu Spraw Publicznych Uniwersytetu Jagiellońskiego*, Kraków.
- MAŚLOCH G., 2011. Podstawy prawne gospodarki odpadami (Legal basis for waste management) (in:) Z. Grzymała, P. Jeżowski, G. Maśloch (eds), *Kierunki rozwoju gospodarki odpadami w Polsce w aspekcie efektywności przyjętych rozwiązań*, Oficyna Wydawnicza SGH, Warszawa.
- Ordinance of the Minister of the Environment of 9 December 2014 on the cataloguing of wastes (Journal of Laws 2014, item 1923).
- A quality environment. How the EU is contributing, 2005, European Commission, Brussels.
- MILEWSKA A., CZABAN T., 2014. Formalnoprawne aspekty funkcjonowania związków międzygminnych (Formal and legal aspects of municipal associations), *Zeszyty Naukowe Szkoły Głównej Gospodarstwa Wiejskiego w Warszawie, Ekonomia i Organizacja Gospodarki Żywnościowej*, 106, 121–134.
- RADECKI W., 2013. Ustawa o odpadach: komentarz (Act on waste comment), Wolters Kluwer, Warszawa, 103.
- ROSIK-DULEWSKA C., 2015. Akty prawne dotyczące gospodarki odpadami, stan na 28 maja 2014 (Legal acts on waste management, as at 28 May 2014) (in:) *Podstawy gospodarki odpadami*, Wydawnictwo Naukowe PWN, Warszawa.
- Resolution of the Polish Sejm of 22 May 2009 on adopting the document “National Environmental Policy for 2009–2012 and 2016 outlook” (MP of 2009, No 34, item 501).
- Resolution No 217 of the Council of Ministers of 24 December 2010 on the “National Waste Management Plan 2014” (MP 2010, No 101, item 1183).
- STACHOWICZ M., 2013. System gospodarki komunalnej (System of municipal management) (in:) *Zarządzanie w jednostkach samorządu terytorialnego wybrane zagadnienia i obszary oddziaływania*, D. Stawisz, D. Sikora-Fernandez (eds), Placet, Warsaw.
- WOŹNIAK M., 2013a. Przedmowa (Introduction) (in:) *Administracja dóbr i usług publicznych*, M. Woźniak (ed.), Wydawnictwo Difin, Warsaw.
- WOŹNIAK M., 2013b. Środowisko i jego ochrona w planowaniu i zagospodarowaniu przestrzennym (Environment and its protection in spatial planning and development) (in:) M. Woźniak (ed.) *Administracja dóbr i usług publicznych*, Difin, Warszawa

Summary. The article presents the organisational and legal conditions behind a municipal waste management system. The authors reviewed the subject literature on the functioning of local government and public services theory, focusing on municipal waste management.

The paper also contains acts governing international and national law. They define, in the light of the central hierarchy of waste, the types and magnitude of necessary measures to be implemented in this area. They cover both requirements of quantity and quality.

Key words: municipality, municipal waste, environmental policy

JEL: H41, Q53, Q58

Corresponding author: Anna Milewska, Warsaw University of Life Sciences – SGGW, Faculty of Economic Sciences, Department of European Policy, Public Finances and Marketing, Nowoursynowska 166, 02-787 Warsaw, Poland, e-mail: anna_milewska1@sggw.pl