

## Chapter 5

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### WASTE MANAGEMENT IN POLISH COMPANIES

**Abstract:** In the chapter the process of waste management in Polish companies was presented. The waste, waste producer and waste holder were defined. The most important regulations about environment protection connected with waste management in Poland were described. The Best Available Techniques BAT, which help to reduce the environmental impact of the company, were characterized.

**Key words:** waste, waste management, best available techniques BAT

#### 5.1. Introduction

As a result of growing care for the natural environment, the rules, which have to protect this environment, are changed. These rules concern, among other things, companies, and in particular the management of their waste.

The definition of the waste is included in the Act of 27 April 2001 on Waste. According to this definition the waste means any substance or object in the categories set out in Annex 1 to the Act, which the holder discards or intends to get rid of or its discard is required (Ustawa o odpadach).

The waste management means the collection, transport, recovery and disposal of waste, including the supervision of such operations and the disposal sites.

Within the European Union's policy connected with the environment, to ensure significant progress in the field of waste management, the

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following principles defining the directions of companies activities were established (POSKROBKO B. 1998; KRUSZEWSKA I. 1995):

- the principle of striving for the prevention of waste, reducing the amount of waste and convert more harmful to less threatening waste,
- the principle of ensuring the recovery, mainly through recycling of useful components of the waste, which creation in the current technical and economic conditions can not be avoided,
- the principle of waste treating, especially hazardous, outside storage,
- the principle of safe for human health and the environment waste landfilling method, which at any given time and in the current technical and economic conditions cannot be recovery or treatment,
- principle of proximity, which means that the recovery or treatment of waste at first should take place where generated (or in the nearest locations),
- the principle of extended waste producer responsibility, who are also responsible for waste generated during use and after use of the product.

A businessman as a waste producer is obliged to apply the methods of production and forms of services, materials and raw materials that prevent waste generation and help to maintain the lowest possible level of its quantity, and reduce negative impacts on the environment or risk to life or health. In each proposals for a decision on waste management, the waste holder should consider and identify ways to prevent or reduce waste quantities and the negative impact on the environment.

In order to determine the recipient's obligations under the law it is essential to properly define the waste producer and the holder.

The waste producer – is anyone whose activities or existence causes waste and anyone who carries out pre-processing, mixing or other operations resulting in a change in the nature or composition of this waste. The producer of waste resulting from the provision of service for the construction, demolition, repair facilities, cleaning of tanks or equipment, and cleaning, maintenance and repair is an entity that

provides the service, unless the contract for the provision of services provides something else.

The waste holder – is anyone who actually owns waste (waste producer, another natural person, legal person or an organizational unit), with the exception of the waste transport. According to the Act on Waste it shall be presumed that the ground owner is the owner of waste found on the property (TEODOROWICZ H. 2010).

## **5.2. Basic laws and regulations in the field of waste management in Poland**

With the development Poland began to change the system to adapt its law, including environmental law to the changing world requirements. Special attention was paid to the negative impact on the environment and the need its recovery.

The Act of 27 April 2001 the Environmental Protection Law (POŚ) contains two important articles. Article 6 provides the obligation to prevent negative effects on the environment, if the activity of an organization does it. Article 7 contains the obligation incurred by the organization pollution removal costs, if such pollution causes (Ustawa Prawo ochrony środowiska).

The Act of 27 April 2001 on Waste includes responsibilities of organizations whose activities generate waste. This organization, according to Article 5, “shall plan, design and carry out actions to (Ustawa o odpadach):

- 1) prevent producing of the waste and reduce the amount of waste and its negative environmental impact during the production of products, during and after use of products,
- 2) provide recovery in accordance with the environmental principles, if it was not possible to prevent waste,
- 3) provide, in accordance with the environmental principles, disposal of waste, the creation of which could not be prevented, or which could not be recovered”.

However, if the organization, for technical or environmental reasons, is not able to carry out such a recovery, according to Article 7, waste should be disposed in accordance with the requirements of environmental protection and waste management plans.

New or investing companies should also keep in mind that newly built or remodelled building construction, assembly or installation of facilities cannot be put into use if not comply with the requirements of environmental protection. Environmental protection requirements for newly built or rebuilt a building, complex of buildings or installations are following (Ustawa Prawo ochrony środowiska):

- a) the performance required by the regulations, or referred in the administrative decisions the technical measures to protect the environment;
- b) the application of appropriate technological solutions, resulting from the acts or decisions;
- c) obtaining the required decisions defining the scope and terms of the environment use;
- d) keeping tests and checks required by the law, arising from the law emission standards and conditions specified in the permit issuance.

All users of the environment are obliged to pay fees. These fees are paid for emission of gas and dust into the air, emission of sewage into water or soil, water consumption and waste disposal.

The fee for the disposal of waste depends on the amount and nature of the waste, provided that the increased fee also depends on the time of the waste landfilling. The increased fee applies only to entities using the environment without the required administrative decision authorizing the waste management.

### **5.3. The waste catalogue**

The waste catalogue was presented in Regulation of the Minister of the Environment of 27 September 2001 on the waste catalogue. This regulation specifies this catalogue with a list of hazardous waste and how to classify them. In the catalogue the types of the waste are divided into

20 groups according to their source (with some exceptions)  
(Rozporządzenie Ministra Środowiska w sprawie katalogu odpadów):

- 1) waste resulting from exploration, mining, quarrying, physical and chemical processing of ores and other minerals,
- 2) waste from agriculture, horticulture, aquaculture, forestry, hunting and food processing,
- 3) waste from wood processing and the production of panels and furniture, pulp, paper and paperboard,
- 4) waste from the leather, fur and textile industries,
- 5) waste from the processing of crude oil, natural gas purification and pyrolytic treatment of coal,
- 6) wastes from the manufacture, formulation, supply and use of inorganic chemical industry,
- 7) wastes from the manufacture, formulation, supply and use of organic chemical industry,
- 8) wastes from the manufacture, formulation, supply and use of protective coatings (paints, ceramic enamels), adhesives, sealants and printing inks,
- 9) wastes from the photographic industry and photographic services,
- 10) waste from thermal processes,
- 11) wastes from chemical surface treatment and coating of metals and other materials and non-ferrous hydrometallurgical processes,
- 12) wastes from shaping and physical and mechanical surface treatment of metals and plastics,
- 13) waste oils and wastes of liquid fuels,
- 14) waste organic solvents, refrigerants and propellants,
- 15) packaging waste; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified,
- 16) waste not otherwise specified,
- 17) waste from construction and demolition of buildings and road infrastructure,
- 18) medical and veterinary waste,

- 19) waste from installations and facilities for waste management, sewage treatment plants and drinking water treatment and water treatment for industrial use,
- 20) municipal wastes including separately collected fractions.

Cataloguing of the waste in a company is a difficult process for the company. The Waste Catalogue identifies the groups, subgroups and types of waste. The waste is attributed with a six-digit code indicating the type of this waste. If it is hazardous waste, in the catalogue it is marked as an asterisk with the superscript.

#### **5.4. Registration of waste**

The companies must properly register all generated waste. All specimen documents are presented in Regulation of the Minister of the Environment of 8 December 2010 on the specimen documents used for the registration of waste. This Act contains the following specimen documents (Rozporządzenie Ministra Środowiska w sprawie wzorów dokumentów stosowanych na potrzeby ewidencji odpadów):

- 1) specimen of a card of the waste evidence,
- 2) specimen of a card of the municipal sewage sludge evidence,
- 3) specimen of a card of the used electrical and electronic equipment evidence,
- 4) specimen of a card of the end-of-life vehicle evidence,
- 5) specimen of a card of the waste transfer.

If the small and medium companies meet the conditions, in their case it is permitted simplified recording on wastes. These records contain only a waste transfer card. Conditions to be met by the company are following (Rozporządzenie Ministra Środowiska w sprawie rodzajów odpadów lub ich ilości, dla których nie ma obowiązku prowadzenia ewidencji odpadów, oraz kategorii małych i średnich przedsiębiorstw, które mogą prowadzić uproszczona ewidencje odpadów):

- 1) generates hazardous waste in quantities of up to 100 kg per year,

- 2) produces non-hazardous, non-municipal waste in an amount of up to 5 tons per year.

Particularly useful regulation for the small and medium companies in terms of an exemption from the obligations to keep records of waste is the Regulation of the Minister of the Environment of 11 December 2001 on the types or quantities of waste for which there is no obligation to keep records of waste, and the category of small and medium companies, which can lead to simplified records of waste.

### **5.5. Best Available Techniques BAT as an instrument of the waste management**

The most important condition to obtain an integrated permit is to adapt the technology and the consumption of raw materials, media, water and energy, the amount and types of waste generated and the procedures and work practices to the requirements of the Best Available Techniques (BAT). These requirements are specified in reference documents called BREFs (BAT Reference Notes), and may result directly from the applicable laws and other technical specifications, instructions of best practices, technical standards, etc.

The BREF documents were drawn up by the European IPPC Bureau in Seville to industries covered by an integrated permit (Najlepsze Dostępne Techniki 2005).

In accordance with Article 206 of the POŚ, the implementation of BAT requirements does not relieve the operator from the obligation to meet the environmental quality standards. If quality standards (emission standards, the maximum concentration of a substance in the environment) require more stringent requirements than those of BAT - are referred to in the permit (Ustawa Prawo ochrony środowiska).

The Best Available Technique as defined in the Directive 96/61/EC is the most effective and advanced stage of the development and the methods of operation which indicate the practical suitability of particular techniques for providing the basis for emission limit values designed

to prevent and, where that is not possible, generally to reduce emissions and the impact on the environment as a whole, namely (Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control (OJ L 257 from 10 October 1996, pp. 26)):

- “Techniques” shall include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.
- “Available” techniques shall mean those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator.
- “Best” shall mean most effective in achieving a high general level of protection of the environment as a whole.

When determining the best available techniques, special consideration should be given to the following items presented by the European IPPC Bureau in Seville (<http://ippc.mos.gov.pl/preview/pl/bref.html>):

1. the use of low-waste technology;
2. the use of less hazardous substances;
3. the furthering of recovery and recycling of substances generated and used in the process and of waste, where appropriate;
4. comparable processes, facilities or methods of operation which have been tried with success on an industrial scale;
5. technological advances and changes in scientific knowledge and understanding;
6. the nature, effects and volume of the emissions concerned;
7. the commissioning dates for new or existing installations;
8. the length of time needed to introduce the best available technique;
9. the consumption and nature of raw materials (including water) used in the process and their energy efficiency;



10. the need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it;
11. the need to prevent accidents and to minimize the consequences for the environment;
12. the information published by the Commission or by international organizations.

## **5.6. Summary**

Waste management in the companies is a large and legally complicated issue. High dynamic changes in the law relating to waste management hampers the functioning of companies and causes legal uncertainty. Since 2001, in which 2 Acts: the Environmental Protection Law and the Act on waste were introduced, there were hundreds of changes of the environmental regulations. These changes concerned all environmental regulations, including waste. Still not all entrepreneurs are aware that they are subject to stringent environmental requirements. Even owners of small businesses have to meet a number of obligations resulting from environmental legislation. Failure to comply the regulation may result in financial penalties, as well as the suspension of the enterprise.

The advantages of proper waste management in the company can be divided into several groups, including (TEODOROWICZ H. 2010.):

- reduction of the raw materials consumption,
- reduction of the cost of acquiring raw materials, energy costs and the cost of transportation of raw materials,
- elimination of fees and penalties for improper waste handling,
- environmentally friendly image of the company,
- increase of the company market competitiveness,
- improvement of working conditions and increase of the people safety,
- increase of the employees' environmental awareness,
- sustainable approach to waste as secondary raw materials, and suitable for re-use,

- preparation of the implementation of the environmental management system in accordance with the requirements of international standard ISO 14001 and EMAS,
- access to business support funds (grants can be received provided that the company fulfill all environmental rules).

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