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ENVIRONMENTAL MANAGEMENT IN POLISH COMPANIES

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ABSTRACT
According to laws applicable in Poland, the companies operating on the Polish territory are obliged to prevention, recovery and proper storage of production waste. The basic laws and regulations in the field of waste management in Poland are: the Act of 27 April 2001 on Waste and the Act of 27 April 2001 the Environmental Protection Law. The purpose of the paper was to present general situation concerning the protection of the environment in Poland. In the paper the definitions of waste and waste management, according to the current regulations in Poland, were presented. Basic laws and regulations in the field of waste management in Poland were described. The basic statistics on waste management by Polish companies were shown.
Key words: *environment, waste, waste management*

INTRODUCTION

The companies operating within the so-understood environment, affecting it, have led its degradation. Therefore, to prevent further pollution, a number of laws, policies and strategies were introduced. The article briefly describes all the most important rules.
Adapting to the constantly changing environmental regulations is especially noticeable for small and medium companies because of the costs associated with their production system adaptation. Therefore, environmental regulations must be largely treated as one of the groups of determinants that affect the functioning of these companies [1].
The purpose of the paper was to present the main responsibilities of companies in the field of waste management in Poland. This is a very timely topic because of the increasingly tightening provisions of the European Union in the field of environmental protection.
In the paper the definitions of waste and waste management, according to the current regulations in Poland, were presented. Basic laws and regulations in the field of waste management in Poland were described. The basic statistics on waste management by Polish companies were shown.

DEFINITION OF WASTE ACCORDING TO POLISH LAW

The definition of the waste in 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 [2].
The waste management means the collection, transport, recovery and disposal of waste, including the supervision of such operations and the disposal sites.
The various methods of waste management create the waste management hierarchy (Figure 1).This hierarchy included in the art. 4 of the Directive of the European Parliament and of the Council on waste and repealing certain directives[3], should apply as a priority order in law and policy relating to both the prevention of bio-waste and its management.

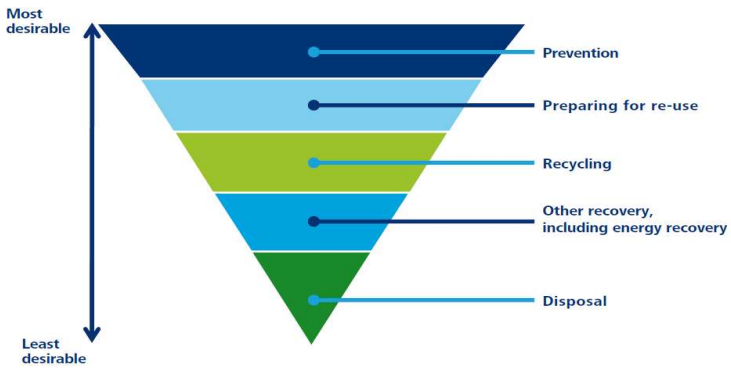

Fig. 1 - Waste management hierarchy. [3]

Within the European Union's policy connected with the environment, to ensure significant progress in the field of waste management, the following principles defining the directions of companies activities were established [4,5]:

- 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 cannot 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.

WASTE MANAGEMENT IN POLISH COMPANIES

In Poland in 2000, there were 1393 plants producing waste (excluding municipal waste). In recent years, the number of them has increased to 1936 in 2011. These plants differently managed their waste. The degree of recovery, treatment and landfilling of the waste by the plants in each year of the research period is presented in Figure 2.
In addition, Figure 3 shows the trend lines for the treatment and landfilling of the waste in order to show how much the approach to treatment and landfilling of the waste have been changed. Both figures do not include municipal waste.

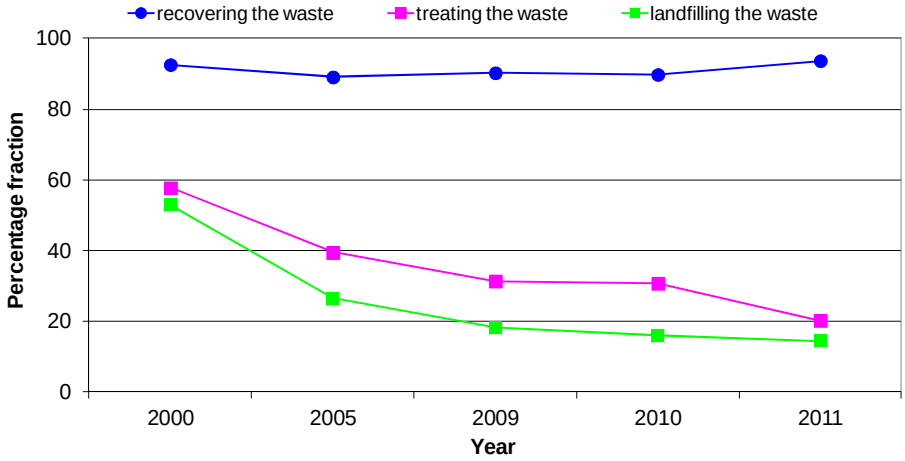

Fig. 2 - Companies recovering, treating and landfilling waste generated during a year. [6]

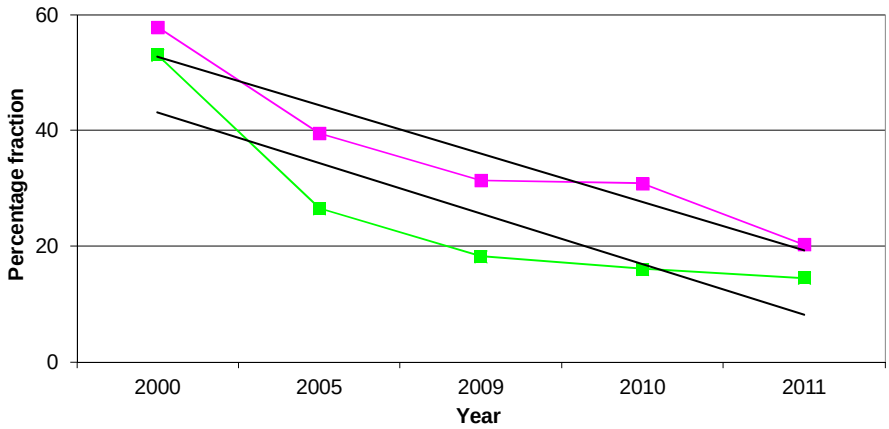

Fig. 3 - The trend line of the companies recovering, treating and landfilling waste. [6]

During the research period the percentage of plants recovering waste was over 90% of all plants producing waste. Very important symptom is a decrease in the percentage of plants treating or landfilling the waste. Figure 3 it is shown a general downward trend for these two factors. This means that companies, rather than treating of landfilling waste, try to find a way to its recovery. It is probably caused by the need to reduce production costs. Recovered waste can be reused in a subsequent production process [7].

In addition, Figure 4 it is shown the management of particular types of waste (excluding municipal waste) in 2011.

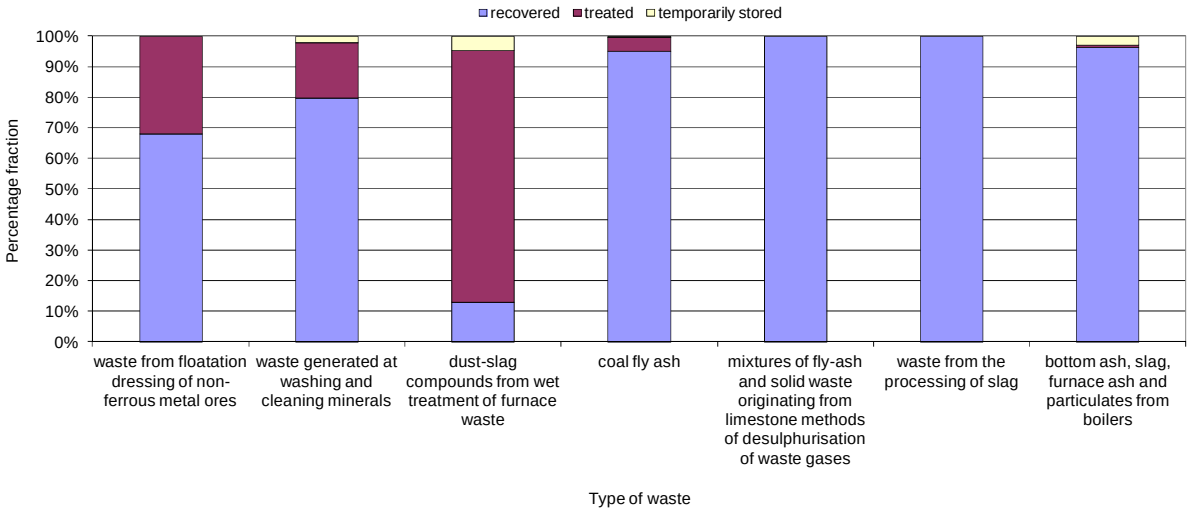

Fig. 4 - Waste management in 2011. [8]

Analysing Figure 4 it can be seen that the mixtures of fly-ash and solid waste originating from limestone methods of desulphurisation of waste gases and also the waste from the processing of slag were recovered in 100%. In case of the coal fly ash and also the bottom ash, slag, furnace ash and particulates from boilers the 90%-recovery was noticed.

All shown changes were dictated by the adjustment of Polish law to EU requirements, which impose certain limits on the creation of waste, but also their recovery. In Figure 5 the key legal requirements for waste management in Poland according to UE law are presented.

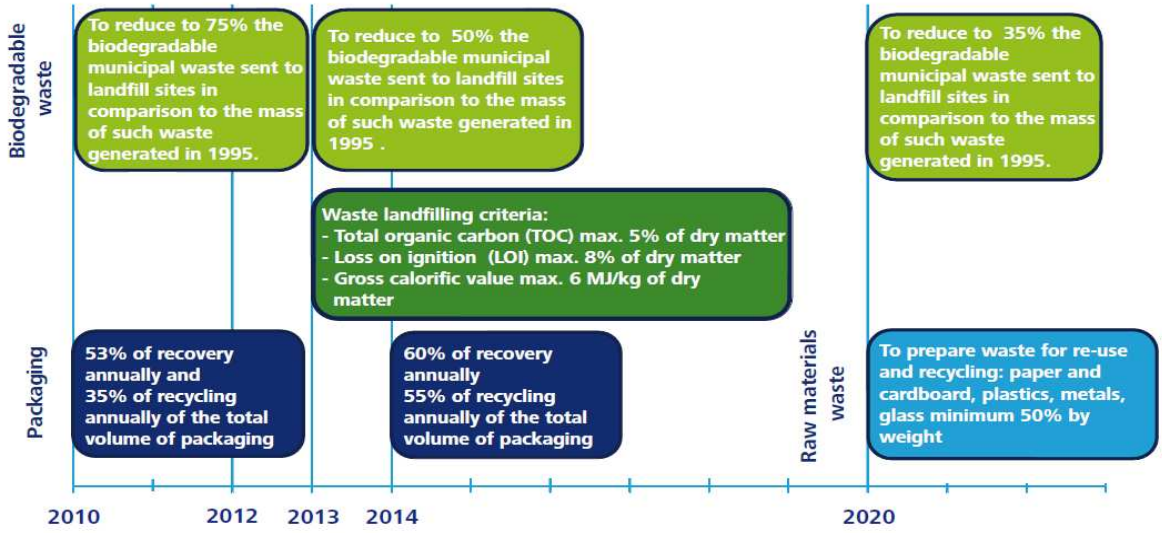

Fig.5 - Key legal requirements for waste management in Poland. [6]

SUMMARY

Appropriate waste management, in particular, the recovery is due not only to a very restrictive regulations, but the need to reduce production costs. Reduction of pollution and generated waste is caused by the fact that their treatment or landfilling are an additional cost for the company. In Poland, there are many companies that are able to manage their waste. This means also that a new companies have a chance to it to as well. In the market there are a lot of companies that can take away waste from other companies and utilize them.

The most important is to check all the rules on the own business and industry that the company can properly organize their waste management.

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