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WASTE MANAGEMENT IN POLAND IN THE PERSPECTIVE OF SOLUTIONS IN THE EU - THE EXAMPLE OF GERMANY

1. Introduction

In the process of integration with the European Union (EU), Poland is obliged to introduce and implement legal solutions according to standards currently in force in the EU. This also concerns waste management. The act on waste management that is in force in Poland is, in its general form, in accordance with the European Strategy for Waste Management. In particular it is in accordance with:

- Directive 75/442/EEC from 15 July 1975 concerning waste (the so-called framework directive),
- Directive 91/689/EEC from 12 December 1991 concerning hazardous waste,
- the Directive from 26 April 1999 concerning waste storage [Jerzmański, 2001].

The aim of EU legislation regulating waste management is most of all the reduction of waste dumped at landfill sites. Proper legislation should stimulate prevention of waste creation (pre-cycling) and recycling. Although in Poland similar legislation exists, in practice almost all waste is simply stored, mainly because of a lack of strong economic incentives for pre-cycling and recycling. Legislation on product and deposit fees for economic entities that came into force on 1 January 2002 should change this situation.

The aim of this article is to present different factors that influence the effectiveness and efficiency of waste management systems in the EU by the example of a model applied in Germany, a country with a well

developed "ecological culture", and to compare this with the situation in Poland and solutions introduced in the process of EU accession.

According to the European Commission, most of the EU environmental standards should be achieved in 7–10 years. However, in some cases, such as communal sewage treatment, the quality of drinking water and some types of waste, a longer period is allowed (15 years) as the financial burden on private and public enterprises would be too high.

The estimated cost of constructing sewage treatment plants in Poland alone is 18 billion euro. One third of this should be covered by the EU, while the rest should be funded by local government. Sewage treatment plants are to be constructed in all towns with more than 2000 inhabitants [Bielecki, 2001, 16].

In the negotiations on EU membership, Poland obtained transition periods for adapting to the implementation of EU norms in 9 fields, while other candidate countries only obtained transition periods in 2–4 cases [Ibid.].

Besides costs, the implementation of EU norms in the field of environmental protection also bring benefits. The benefits for Poland to be achieved by 2020 have an estimated value of 208.2 billion euro, among other things due to lower expenditure on health care, use of modern technology by industry reducing emissions and larger profits from tourism. However, 10 to 25% of these expected benefits are a consequence of the adoption of EU norms by the Czech Republic, as this country greatly contributes to pollution in the southern part of Poland [Ibid.].

2. Waste management in the EU based on the example of Germany

The reports "Environment in the European Union at the turn of the century" and "Environmental signals 2000" published by the European Environment Agency (EEA) by the end of 2000 show an ecological picture of the 15 EU member countries that is far from ideal. Each year 1.3 billion tons of waste is generated, in which there is a share of heavy metals such as copper, cadmium and mercury.

Although the level of ecological consciousness is high and people care about the environment, the state of the environment is still deteriorating. The main cause is, according to the EEA, unsustainable development in certain sectors of the economy [Forowicz, 2001, 24]. The main environmental problems in the EU are:

- the increasing amount of waste dumped, despite the fact that more and more glass and paper are being recycled,

– the increasing amount of hazardous waste and emission of hazardous substances. Until 2010 a further growth of waste in the form of heavy metals such as copper, cadmium and mercury is expected. Dust, Nox, carcinogenic substances and ozone will still exceed permitted norms in large agglomerations [Ibid.],

– 24 of the 60 biggest cities in the EU have problems with smog. This mostly concerns firms in northern Italy, northern France, Belgium and south-west Germany. According to the EEA this problem will worsen. Currently dust pollution causes between 40,000 and 150,000 casualties annually,

– increasing problems with acid rain on more than 1/3 of the area of Europe, especially in Germany and the Netherlands,

– increasing water scarcity in large cities in southern Europe [Ibid.].

– It is very likely that these environmental problems also will appear in Poland in the future. In order to prevent such a situation, the following should be done:

– emphasize environmental problems in the process of harmonization of Polish legislation with EU legislation,

– use systemic solutions that were successful in EU countries and take advantage of experience in other countries,

– increase the role of environmental education of society.

An example of a country whose experience could be useful is Germany. Germany is a country where a lot of attention is given to environmental problems such as waste management. This may be connected with the high level of welfare (e.g. GDP per capita) and the high level of environmental awareness of society.

The *polluter pays principle* is the main principle of government policy towards waste management. When it is difficult to identify the polluter unambiguously or when fast abatement of environmental hazards is necessary, public funding may be used. The government strategy concerning waste management is based on ten pillars:

1. the *polluter pays principle* – this principle also includes final users of products,

2. the special role of legislation in preventing and punishing environmentally unfriendly behaviour – fines for polluting the environment are very high (pollution is treated in a similar way to theft or arson, and the fine for dumping old car tyres at a place where it is prohibited is subject to a 500 euro fine),

3. great emphasis on environmental education of society, especially children,

4. the basis for the effectiveness of a system for environmental protection is strict co-operation between the government, public agencies,

non-governmental organisations and citizens. This facilitates decision-making by way of reducing uncertainty and stimulates the flow of information between different stakeholders,

5. the priority of technological advance in environmental protection, environmentally unsound technology should not be profitable,

6. household waste is separated at source, with the aim of recycling and re-using hazardous waste,

7. reliable public information leading to effective environmental protection,

8. competition between firms involved in waste management increases the effectiveness and efficiency of their operations,

9. government agencies have a wide range of legal, taxation and financial instruments at their disposal for stimulating environmentally sound behaviour by households and firms,

10. although waste management is organised according to market principles, it is supported by special legal regulations [Dobrowolski, 2001].

The 10 pillars of the German government strategy concerning waste management are important conditions for its effectiveness and efficiency. The German system is one of the most effective in Europe. It seems that the most important determinants of its effectiveness are publicness and speed of dissemination of information, a prominent role for education and the market mechanism providing strong incentives for efficiency in waste management.

Recyclable waste and waste that has to be neutralised are collected using two different systems: the *Holsystem* and the *Bringsystem*.

The first method, the *Holsystem*, is based on the collection of recyclable waste and other waste in containers placed close to peoples' home. The company involved in waste management collects the containers regularly at a set date and time, and unloads it at the regional waste collection point.

The second method, the *Bringsystem*, is based on the collection of particular recyclable waste in large containers in the neighbourhood of places often visited by people, such as shops and stations. Such containers often serve about 500 inhabitants. This method significantly increases the distance from peoples' home to the container, which may reduce its effectiveness [Ibid.]. Both methods are effective, mainly due to the high level of environmental awareness in society, knowing the advantages of selective waste collection for the environment.

The collection and recovering of packaging is very important in the German waste management system. Producers and importers of recyclable packaging may use the trade mark *Der Grüne Punkt* (the Green Point). Licences for using this trade mark are granted by an institution

named *Duales System Deutschland* (DSD, which has existed since 1990). The system is dual in the sense that the system functions in parallel with local waste collection authorities [Schmitz, 2002].

DSD is a non-profit organisation financed by the fees that are paid for the use of the trademark *Der Grüne Punkt*. This trademark means that collection and recycling of the packaging is guaranteed. The use of this trademark has significantly increased the sales volume of products with this trademark. This has had as a consequence that old-fashioned, environmentally unsound production technologies are not used anymore for the production of packaging.

The main aim of firms is to apply such technology that minimises the costs of producing packaging. It has been estimated that the applied technology has reduced costs by 50%. This has been a consequence of DSD's policy, stimulating firms to produce packaging that is easy to recycle.

The fact that currently more than 86% of all packaging on the German market is covered by DSD is an indicator of the effectiveness of this system. The recycling and recovering of packaging is significantly above the current norms. In Poland only 19% of the total of 2.7 million tons of waste is processed. Data from the Polish Research and Development Centre for Packaging (COBRO) show that paper and cardboard packaging are in particular re-used (36% of 1.1 million tons). Second position is taken by glass (9% of 870 thousand tons re-used), followed by plastic (4.7% of 427 thousand tons re-used) [Błaszczak, 2000, 9], cans and laminates.

The amount of recycled and re-used packaging in Poland is too small compared to EU countries. For this reason the German example deserves special attention, as successful methods may function as an example and lower the risk of making mistakes when constructing and implementing systems for waste management in Poland. Although the aims of environmental policy in Poland are similar to those in Germany, the effects of legislation often differ from the intention of the legislator. Often legislation only exists on paper, and reality significantly differs from theory. Crucial weaknesses of Polish environmental policy are:

- legislation is not precise enough (lack of differentiation between bio-degradable waste and non-degradable waste which is not harmful to the environment [Dobrowolski, 2001],
- weak legal enforcement, which is connected with too low fines on behaviour harmful to the environment,
- poor environmental education of society,
- lack of waste separation in households.

It seems that without putting more emphasis on the points mentioned above, solutions aimed at improving the environment and reducing waste problems will not be very effective.

Literature

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