

Waste management

In accordance with the principle of sustainable development, the policy of the European Union is aimed at ensuring constant growth of the level of environmental protection. At present, work is highly advanced on a revision of the fundamental Directives in this area, and further amendments of detailed provisions are also planned. One of the most important issues concerns improving the efficiency of waste management.

Poland is a country where this area of environmental protection still requires considerable attention in order to attain the level of a balanced, sustainable economy, in which individual waste stream will not be directed to dumps, but reutilised.

In 2004, approximately 140 million tonnes of wastes were generated in Poland. The recovery process accounted for approximately 80% of wastes, while approximately 18% were neutralised. Approximately 12 million tonnes were municipal wastes, and of these 96% were neutralised through storage in municipal dumps. These wastes comprised approximately 5 million tonnes of wastes subject to biodegradation. Annually, approximately 2.5 million tonnes of packaging are produced and consumed in Poland.

In accordance with the negotiated transitional periods, by the end of 2010 Poland should reduce the quantity of stored municipal wastes subject to biodegradation – in comparison with quantities of wastes generated in 1995 – to 75%, to 50% in 2013, and to 35% in 2020. The amended Directive on packaging and packaging wastes (94/62/EC) imposes specific obligations on Poland regarding levels of recovery and recycling of packaging wastes. As early as 2007, Poland should attain a 50% level of recovery of marketed packaging, and a level of 60% in 2014. The necessity of reducing the mass of wastes, resulting from imposed recovery levels, requires the introduction of waste management methods other than storage. One of these could be the thermal recovery of wastes. An additional argument in support of the wider utilisation of thermal methods of waste management should be the tightening of criteria and procedures used to admit wastes to storage in specific dumps, which follows from the continued implementation of Community legal provisions to Polish law.







The Act amending the Act on Wastes entered into force on 13th October 2005 and introduced among others changes concerning provisions regulating the thermal transformation of wastes. The Act specifies the method of classifying individual thermal waste transformation processes as suitable for recovery or neutralisation. The R1 recovery process concerns the thermal transformation of packaging wastes, plant and forestry wastes (among others) and wastes other than municipal and hazardous wastes, while the D10 neutralisation process covers the thermal transformation of municipal and hazardous wastes – in both these processes, the energy generated should be used outside of the process of thermal waste transformation.

According to the amended legislation, the thermal transformation of wastes may be performed at waste combustion and co-combustion facilities; the division into hazardous waste combustion facilities, municipal waste combustion facilities and combustion facilities for wastes other than hazardous and municipal has been eliminated.

In a revolving cement kiln it is possible to perform the energy recovery of various types of combustible wastes, appropriately arranged



in terms of calorific value and homogeneity of composition. When defining combustible wastes, attention is given to the physical state of the fuel, its calorific value, chemical composition (in particular the content of elements such as sodium, potassium, chlorine and fluorine), toxicity (multimolecular aromatic particles, PCB, heavy metals), the quantity and chemical composition of ash, humidity, homogeneity, ease of processing and transport, graining, density. Limitations in this field are an individual issue for specific kiln installations, and the parameters are at each and every time agreed with the fuel supplier.

There is a very broad assortment of wastes that may be used in cement kilns. They include:

- Used tyres and other rubber wastes
- Wood, paper and textiles
- Plastics
- Municipal wastes
- Used oils, paints, solvents and sludges
- Animal by-products (bone-meat meal, fats).

The implementation of Community law and the necessity of attaining existing and planned standards introduced for waste management in member states of the European Union obligates Poland to accept obligations, which can

be executed effectively and rapidly in order to ensure fulfilment of our accession undertakings and avoid the financial penalties provided for in the event of non-fulfilment. For this reason, we should utilise inter alia legislative tools to shape the economy in such a way as to attain the set objectives, while at the same time fully availing ourselves of opportunities facilitating a considerable limitation of costs.