BETTER MANAGEMENT FOR THE DISPOSAL OF WASTE

WHAT IS THE PROBLEM ?

According to European Environment Agency (EEA) statistics, 1.8 billion tonnes of waste, including 40 million tonnes of hazardous waste, is disposed of each year in the European Union. This is equivalent to approximately 3.5 tonnes of solid waste per person per year (Topic Centre of European Environment Agency, 2004).

Options for dealing with waste are outlined in the waste hierarchy: 1. reduce, 2. reuse, 3. recycle, 4. dispose. Disposal of waste is considered the least favoured environmental option and is dependent on availability of options higher up the hierarchy.

Figure 6.1 Plastic bottles in recycling plant

Landfill sites used for the disposal of waste can occupy valuable land and create problems such as air, surface water, ground water and soil pollution together with transportation problems. Incinerators used to burn waste release emissions into the atmosphere, soil and water. Both landfill and incineration can have significant impacts on human health. The EU aims, through new waste prevention initiatives, to cut the amount of waste going to 'final disposal' (landfill or incineration) by 20% from 2000 levels by 2010 and by 50% by 2050 (EUROPA, 2004).

The EEA (2002) advocates life cycle assessment and environmental cost-benefit analyses to determine the preferred option for waste management in order to cause the least impact sustainably and financially. Landfill sites produce methane gas during the decay of organic waste, this can be extracted and utilised as a source of energy. The capacity of landfills is reducing, and incineration is a common alternative as reductions of up to 95% volume and 75% of the initial weight occur. Incinerator waste can be used in construction.

GEOGRAPHICAL AND TIME SCALE IMPACTS

Project scale is mainly at a municipality and national level due to local policy, availability of disposal sites and the cost of treatment methods. The municipality can also enforce regulations referring to landfill tax and emission levels from incineration which are driven by national and EU level. For example, the EU directive on landfill of waste has set a limit value on dioxin emissions, which only permits incineration plants able to achieve the standards to operate. Dioxin is considered the most problematic substance in flue gas (EEA, 2002).

Stage of project related to key problems Please mark arrow/s for time period when tool can be used	← →

inception of project idea	Design	Design assessment	Construction	operation	demolition

Scale of project related to key problem	Component	Building	Neighbourhood	City	Region
		X	X	X	X

CONFLICTING PROBLEMS

There is a lack of availability of methods to reuse and recycle materials used. Also there is a lack of knowledge of how to reduce the amount of waste produced.

CASE STUDIE(S) LINKED TO THIS ISSUE

Two PETUS case studies are relevant to the problem of waste disposal:

- Municipal system for biogas extraction and utilisation, Municipality of Bourgas, Bulgaria
- Assessment of organic waste management in Denmark.

There appears to be an overall lack of information about waste management. Only 4 case studies about waste have been found during the PETUS project and only two relate to waste management. In addition only four waste related tools have been found, none of which deal with industrial or hazardous waste. Therefore despite this being an increasingly significant issue, a lack of tools or good practice examples to help guide others to improve waste management are available.

WHAT WILL IMPROVE SUSTAINABILITY?

Positive and negative experiences of municipalities or organisations associated with waste disposal methods could help other municipalities select the most appropriate methods for them. Negative images associated with incineration requires political and scientific support in order to provide accurate information to local communities that would enable such schemes to take place, if safe. A larger number of best practice case studies could help to change the negative image and could demonstrate the success of a range of waste disposal management methods.

Secondly, an increased number of waste management tools are required, that can provide information and benchmarks for dealing with waste management of different waste types.

Thirdly, knowledge about the choice of materials and methods that generate the amount of waste produced is required. By reducing the amount of waste produced the amount of waste to be disposed of is reduced.

To encourage better management of waste the following is required:

- transfer of information from countries that have made 'final disposal' of waste as sustainable as possible, especially with regards to minimising waste to be disposed and obtaining public support,
- provision of best practice guidance on public participation/consultation methods,
- provision of clear legislation on emissions and utilisation of energy generated by waste,
- provision support at the political and municipal level particularly to encourage increased recycling rates and the facilities required to undertake recycling.