MINIMISATION OF CONSTRUCTION WASTE THROUGH THE CONSIDERATION OF MATERIALS USED

WHAT IS THE PROBLEM ?

All stages of urban infrastructure development generate waste, particularly at the construction and demolition stage. The availability of tools that provide general guidance and information on materials would help to reduce the quantities and impact of construction waste, and therefore the cost of disposal as well as the expense of raw materials. This would help to increase competitiveness and improve environmental performance of a company.

Minimisation of construction waste will become more significant as the cost of disposal of waste at landfill increase particularly if the material to be disposed of is hazardous as the number of sites to dispose of this type of waste are reducing (EU, 1999).

Figure 6.2 A skip of containing construction waste

GEOGRAPHICAL AND TIME SCALE IMPACTS

This is a building and national level issue. Implementation at a building level is necessary to reduce waste produced. Legislation at national level is required to encourage the most sustainable approach for material use and to reduce the amount of waste produced.

The problem occurs at all stages of lifecycle from design to demolition.

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 problems	**Component**	**Building**	**Neighbourhood**	**City**	**Region**
	X	X			

CONFLICTING PROBLEMS

A major consideration is the durability of material in building compared to longevity after disposal. Also health aspects of the chemical component of materials need to be considered for example although asbestos is very fireproof, health implications of the use of the material have been appalling.

CASE STUDIE(S) LINKED TO THIS ISSUE

No case studies utilising tools used to increase the minimisation of waste through the consideration of materials used have been found during PETUS which indicates that tools are not widely used by companies. The UK holistic case study, Angelina Street, Butetown Regeneration Scheme contains details of reused material to reduce the amount of waste.

WHAT WILL IMPROVE SUSTAINABILITY?

Firstly, an increased knowledge of sustainable materials that can be used is required. An assessment of the environmental, social and economic costs relating to production, use and final disposal of materials would enable a greater choice of more sustainable materials at all stages of development.

Secondly, the impacts and costs of the waste disposal of construction materials should be realised, for example the cost of transporting the waste to landfill, the cost of paying for landfill disposal, the ecological impacts of energy use, pollution and biodiversity from the creation of the materials, as well as the impact once in a landfill site. Tools that provide statistics/ratings of the sustainability of construction materials could help inform and guide developers, particularly at the design stage of a development.

The EEA (2002) advocates Producer Responsibility as a successful method of reducing packaging waste. This would have a major effect on construction waste as packaging waste can form a significant proportion, in terms of volume, of the waste generated.

Effective waste minimisation schemes largely require (i) political backing (ii) legislative support (iii) fiscal support (iv) financial support (v) administration support (vi) and also importantly information, education and training for the wider public as well as to the waste producers.

In summary, practical measures to increase the consideration of materials used and thereby minimise construction waste are:

- available information ratings/statistics, that includes embodied energy assessments, about materials and suppliers,
- local best practice projects to provide information and experiences,
- municipality support in the form of time and money, to publicise and collect the above information,
- information, education and training for the wider public and waste producers.