Increasing Recycling and Reuse of Construction and Demolition Waste

Spanish researchers have recently examined the current contribution of environmental management systems (EMS) to the management of construction and demolition waste in a region of Spain that has experienced major developments in the construction sector. The results suggest that environmental management systems contribute to an appropriate management of solid, inert and hazardous waste but only to a certain extent. Obstacles still hinder recycling, reuse and subsequent treatment of recovered waste on construction sites.

Construction and demolition waste (C&DW) is generated on active building sites and includes a wide range of materials including excavation materials, road building and maintenance materials, demolition materials as well as other worksite waste materials. There is currently no European legislation to regulate installations for the treatment of construction and demolition waste. Nevertheless, this waste stream was identified as a priority waste stream by the European Union because it constitutes one of the largest waste streams within the EU (it accounts for 450 million tonnes of waste every year and represents about one fourth of all the waste generated in Europe). In EU-27, on average, approximately 55% of the produced C&DW is reused or recycled. However, in certain countries such as Spain, Italy, Portugal or Greece the market for recycled materials has not yet evolved and there are few of the necessary infrastructures for recycling. Indeed in Spain only 10.3% of C&DW generated is recycled or valorised.

Recently, Spanish researchers have analysed and evaluated the application of the environmental management system (EMS) ISO Standards 14001 to construction sites in the Autonomous Community of Madrid, paying particular attention to control and management practices for waste generated on site, and to the fulfilment of legislation on waste management. The authors compared construction waste management on sites with and without EMS in order to detect possible deficiencies of EMS and current management instruments. The research is based on the collection, statistical treatment, analysis and interpretation of data obtained from a survey completed by personnel in charge of various construction works in progress in Madrid.

The results suggest that EMS on worksites helps promote the fulfilment of the relevant current legislation and the appropriate management of solid, inert and hazardous waste. For example, with regard to reuse, 11.8% of inert waste from EMS sites is reused on another site, as against 5.8% on non-EMS-sites. Nevertheless, there are certain barriers that still hinder the increase of C&DW recycling and reuse rates. These barriers include the following:

- Promoters usually do not include specific budgetary allocations for C&DW management and do not facilitate waste management plans by including them in the technical specifications, nor do they make provision for the use of recycled material.
- National and regional governments are slow to apply C&DW management plans which have been approved. For example, the regional Plan for Integrated Management of C&DW established the creation of a net of public facilities to guarantee the integrated management of C&DW (i.e. transfer stations, C&DW recycling plants, etc.), however the implementation of recycling activities in the region is practically non-existent.
- No initiatives have been taken to launch information and awareness programmes for agents involved in the sector.
- The technical standard regarding C&DW management and the production of recycled arid material has not yet been fully developed.
- Construction companies do not currently fulfil their obligations as producers of hazardous waste due to the high costs of managing this type of waste and the imprecision of current legislation.

Overall, this study highlights certain deficiencies in the application of adequate waste management in construction companies in Spain. Similar patterns can be expected in other European countries with low recycling and reuse rates. The authors recommend drawing up guidelines for their widespread adoption in order to manage C&DW.


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