



# Construction Waste Management Implementation

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## Abstract

A significant amount of world waste is due to construction and demolition activities (C&D). C&D waste is harmful economically and environmentally. This paper reviews the current technologies regarding construction waste management techniques (reduce, reuse, recycle, etc.) and the benefits of construction waste management (CWM) implementation as well as the existing barriers and opportunities. The status of CWM implementation in the world is investigated as well. This study shows that there are many barriers to CWM implementation which should be resolved by coordination between the governments and the construction industry participants.

**Keywords: Construction waste management, Reduce, Reuse, Recycle, C&D waste.**

## 1. INTRODUCTION

Construction and demolition activities (C&D) always generate a significant amount of the world's waste, which is four times that of households. In addition, around 38-50% of the waste deposited in landfills is construction and demolition waste. C&D waste is harmful economically and environmentally; therefore, construction waste management (CWM) has become one of the most important concerns in recent years. C&D waste is generated via various construction-related activities (e.g. raw material extraction, manufacturing of essential materials, construction of structures, demolition of structures and the waste disposal). Approximately, 10% of construction materials and 100% of demolition materials are considered waste [1].

Considerable disposal costs, shortage of landfills, and the importance of protecting the environment create a need to find solutions to reduce, reuse and recycle of construction waste. Based on the need, construction waste management (CWM) could be one of the most important solutions for waste minimization and disposal [2].

Currently, an increasing trend towards the implementation of construction waste management exists. In terms of waste management implementation there are some barriers and one of the most important ones is the lack of awareness. It seems that all societies should be aware the benefits of waste management to be encouraged to develop and take it into practice as one of the most vital processes in construction activities. Construction waste management has different levels including reduce, reuse, recycle, etc.

This paper investigates the existing technologies for construction waste management and reviews the status of CWM in the world as well as illustrating probable barriers to the implementation of construction waste management.

## 2. CONSTRUCTION WASTE MANAGEMENT

Construction waste (debris), as IDNR (Iowa Department of Natural Resources) and SWAP (Solid Waste Alternatives Program) defined, is all "non-hazardous solid waste" producing from construction and demolition (C&D) activities [3]. Construction and demolition (C&D) wastes including demolished concrete (foundations, slabs, columns, floors, etc.), bricks and masonry, wood and other materials such as dry wall, glass, insulation, roofing, wire, pipe, rock and soil constitute a significant component of the total waste [4].

Waste management is defined as a comprehensive, integrated, and rational process to achieve and maintain an acceptable environmental quality and to support sustainable development. Activities like collection, transport, storage, treatment, recovery and disposal of waste are the main sections of waste