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## Management and Recycling of Construction Waste in Taiwan

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### Abstract

In recent years, due to the increase in greenhouse gas emissions causing global warming, but also lead to the world's climate change. Carbon reduction and sustainable development has become an important topic around the world. Resource recycling can reduce the exploitation of natural virgin materials. The building projects have been promote every year and the urban renewal plan cause the demolition of existing buildings demolition. The average life span of buildings is 23.31 years. Most Construction waste was belong to resources that can be utilized to renewable resources. Such as waste concrete block, steel, wood, glass, etc., can now through the construction site to reduce, or transport to recycling factory to become resource. The recycling process can reduce using natural materials and reduce engender the construction waste. In recent years, 2 million tons of construction waste are generated each year in Taiwan. The Taiwan Environmental Protection Administration (TEPA) initiated the online system in 1997 to better manage tracking. After three years of testing, the Industrial Waste Control Center (IWCC) was officially established in 2000. It offers functions like online integration, mobilization, and analysis tools. The construction site was monitored from 2005. The Construction waste must be transported to the treatment facilities. The reporting system has been improved to not only trace the waste flow, but also to monitor the actual amount of waste generated. This paper mainly described Taiwan construction waste management (CWM) practices and reuse status.

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### 1. Introduction

The life cycle of building means the period from Cradle to Grave. The life cycle process of building includes the

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planning of architect, design of architect, drawings of construction, construction, management of operation and maintenance, and demolition. The types of construction waste, generated from building period the life cycle, were aggregated as figure 1:

The division of responsibilities of CWM in Taiwan were belonged to two departments. The construction earthwork is useful resources such as brick, tile, concrete, mud, clay, soil, sand, gravel. The construction earthwork were not belonged to waste and managed by Construction and Planning Agency Ministry of the Interior (CPAMI). The legislation was called “Construction earthwork treatment program”. The construction waste was belonged to industrial waste such as wood, glass, ferrous metal, non-ferrous metal, plastics, rubber, and asphalt. The construction waste was managed for TEPA. The legislation was called “Waste Disposal Act”.(See Figure 2)[1]

**2. Construction Waste Management[2]**

A policy framework for CWM in Taiwan over the past decades, a series of policies have been enacted by the government. It has for made CWM policy framework. (See Figure 3)[2,3].

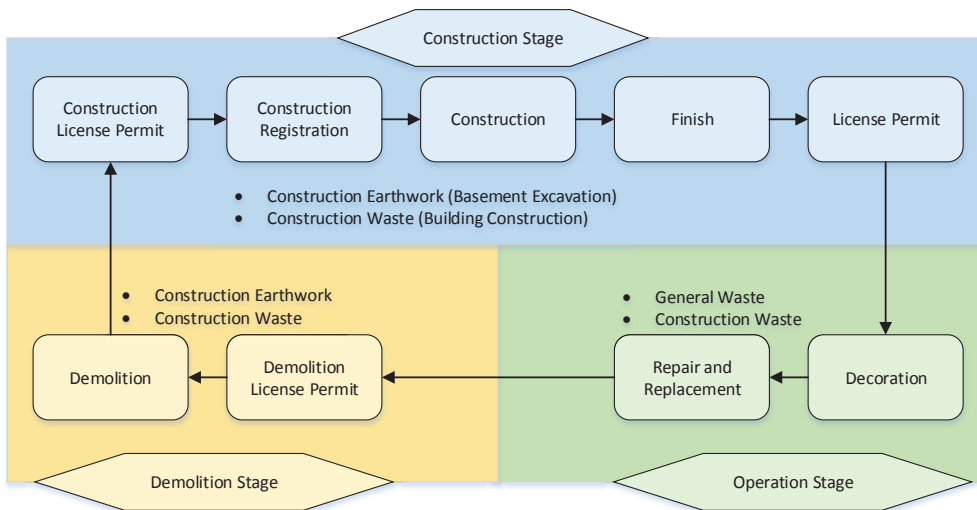


Fig. 1. The types of construction waste generated from building period the life cycle

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