

Dealing with Construction and Demolition Waste Abroad: Lessons for Hong Kong (Part I)

Few issues in construction give rise to more controversy than dealing with construction and demolition (C&D) waste. The problem is the same the world over. In Hong Kong it has been exacerbated by conflicting definitions in governing primary and secondary legislation as to what qualifies as waste, which affects how it should be dealt with - whether recycled or filled. In the first instalment of a two-part article *Dr Arthur McInnis* and *David Hall-Jones* of *Denton Wilde Sapte* look at how C & D waste is dealt with in other leading jurisdictions and then draw some conclusions for how Hong Kong might address the issue.

Hong Kong Context

The Hong Kong construction industry generates a tremendous volume of byproducts that total approximately 40,000 tons per day, most of which is C&D waste. Whilst a lot of this material is recycled in the construction of new reclamations, about 8,000 tons per day is disposed of into landfills as C&D waste. Landfills as we know are running out of space. At the same time so much C&D waste is going into landfills calls are being made to make better use of and recycle the waste. Lately, the Government has announced the creation of a HK\$100 million (US\$7.78 million) fund for recycling projects as well as a 20-hectare waste recovery plant in Tuen Mun. Dumping at landfills versus recycling raises this question of the efficient division and classification of waste.

The regulation of the disposal of C&D waste in Hong has largely been put in place during the last 10 years with the Waste Disposal Plan in 1989, the passage of the Waste Disposal Ordinance in 1992 and in 1998 the release of a

Waste Reduction Framework Plan.

The key definition of "waste" in Hong Kong is set out in section 2(1) of the Waste Disposal Ordinance (Cap 354) which provides waste is:

any substance or article which is abandoned which includes animal waste, chemical waste, household waste, street waste and trade waste.

It can be surmised that "trade waste" is relevant to the construction industry. In addition to this definition the Environmental Protection Department defines C&D material as including:

waste arising from any land excavation, formation, civil building, construction site clearance, demolition activities, roadworks, excavation and building renovation [including]...building debris, rubble...concrete, timber and mixed site clearance materials...

There is complexity in these definitions and their sub-classifications which has, in practice, led to some difficulties. These too have been exacerbated by Hong Kong's increasing volume of waste. The question it raises is whether other countries have experience that is worth borrowing from in classifying and dealing with waste.

The Canadian Context for Waste Management

Multiple Definitions of Waste

In Canada, like Hong Kong, there is no single uniform definition of "waste." Instead a number of provincial and federal statutes and regulations exist which define waste in various ways (e.g. hazardous, special, toxic) for various

purposes (e.g. disposal, transport). Thus, for example at the federal level, the Canadian Environmental Protection Act, 1999 ("CEPA") deals with both "toxic substances" and "hazardous waste". The definitions in the legislation and the regulations also have to be read with the concepts of "waste" and "other matter" ("non-waste") for the purposes of assessing the acceptability of disposal at sea.

Efforts at consolidating, developing and disseminating information on C&D waste and innovations in C&D waste management are currently being made and promoted by various departments at the federal and provincial levels in Canada in combination with the private sector. Steps have been taken to illustrate the efforts taken through case studies looking in particular at waste diversion efforts in local markets and incorporated into C&D projects. A general observation on these case studies is that the success of C&D waste diversion efforts is closely related to local markets.

British Columbia

At the provincial level, British Columbia seems to be active in addressing the issue of waste both in the public and private sector. In terms of legislation, the Waste Management Act does not specifically address construction and demolition waste, but does however define waste. The Waste Management Act adds a further definition for "municipal solid waste" which encompasses demolition from construction sources.

Industry Product Stewardship

In an effort to reduce waste entering British Columbia's landfills and create taxpayer relief, the British Columbia provincial government has, over a number of years, been working on the concept of "Industry Product Stewardship"

which involves putting the onus on industry to both reduce and manage the waste, produced by industry. This might provide an interesting direction as well for Hong Kong to consider.

Industry Product Stewardship is defined as "a management system based on industry and consumers taking life-cycle responsibility for the products they produce and use." For example, in British Columbia brand-owners of beverage containers are required to establish province-wide return collection systems for used beverage containers under a deposit-refund system.

This pressure on industry to take responsibility for the life cycle of the waste it produces seems to coincide with the idea of developing a new definition of construction and demolition waste under the Waste Disposal Ordinance in Hong Kong, which would allow safe and approved construction and demolition "product" to become an export opportunity. That is, the export of safe and approved construction and demolition product could be seen as one way for the construction industry to take responsibility for the economical re-use of this type of material, which would otherwise be categorised as waste.

The concept of industry product stewardship is one model of "Extended Producer Responsibility" (EPR) that the international community continues to explore in order to achieve waste reduction and taxpayer relief worldwide. For example, in May 1999, the Organisation for Economic Co-operation and Development (OECD) sponsored a workshop in Paris on EPR and Waste Minimisation.

Dr Arthur McInnis is a Consultant and David Hall-Jones is a partner with the firm of Denton Wilde Sapte in Hong Kong.