

Science for Environment Policy

Offsite construction waste management: lessons from Hong Kong

The last two decades have seen a series of new construction waste policies management in Hong Kong. One of the most significant is an offsite construction waste sorting (CWS) programme which, since its implementation in 2006, has separated 5.11 million tonnes of construction waste into different materials. The researchers suggest that the study provides an important reference for other countries working to minimise construction waste.

Construction waste management is a challenge that receives worldwide attention. While reducing waste is the most environmentally-friendly form of management, once it is produced, sorting construction waste into different materials is seen as one means of improving practices. Separating out its constituent parts allows some materials to be reused and reduces pressures on landfill sites.

The Hong Kong government implemented a Waste Charging Scheme in 2006, based on the 'polluter pays principle'. In line with the scheme, a construction contractor will be imposed a levy of HK\$125 (€11.98) for every ton of construction waste it disposes of at *landfills* and it will be levied HK\$100 (€9.59) per ton if the construction waste was accepted by *off-site sorting facilities*. An offsite CWS programme was then introduced and two offsite waste sorting facilities were set up. The two offsite CWS facilities have successfully handled a total amount of 5.11 million tonnes of waste up to February 2012. In Hong Kong, construction waste has been a large portion of the total solid waste processed by landfills, reaching as high as 68% in 1991 and even at its lowest reaching 23% in 2007–2009.

The study evaluated the CWS programme by analysing existing studies, government regulations and statistics concerning construction waste and two case studies at the Tuen Mun construction waste sorting facility.

The findings reveal that the success of the offsite CWS programme is mainly attributable to:

- sustaining policy support from the Hong Kong government
- good policy execution
- encouraging offsite CWS through higher disposal charges
- implementation of the 'trip ticket system'

The trip ticket system consists of a form detailing the load of waste for disposal filled by contractors, which in turn generates a receipt from the sorting facility to ensure contractors comply with policy. The system ensures construction waste is properly disposed of through tracking its destination.

While acknowledging the offsite CWS programme's success, there is room for further improvement. Proper location of the offsite CWS facilities, effective measurements of the proportion of inert materials (such as sand and brick), prevention of noise and dust at the CWS sites, and recycling recyclable materials rather than disposal are all areas that need work.

In Europe, the Waste Framework Directive¹ includes a target of reusing, recycling or otherwise recovering 70% of construction and demolition waste by 2020. The concepts of the 'polluter pays principle' and 'extended producer responsibility' form part of the Directive.



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1. See: <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32008L0098:EN:NOT>