



**International Council
for Research and Innovation
in Building and Construction**



October 2011

New CIB Publication

W115 - Construction Materials Stewardship

Construction Waste Reduction around the World



CIB Publication 364

ISBN 978-90-6363-067-6

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Waste reduction is important for all areas of sustainability, environmental, social and economic. It offers the best solution to waste management across all these fronts, yet receives a miniscule level of attention when compared to recycling and recovery of 'already created' waste. It is time to shift the goal posts and aim for zero waste production, rather than zero waste to landfill.

This 162 page report has been produced by CIB W115 – Construction Materials Stewardship. It is intended to provide an overview of construction waste reduction activities across the world through a series of country reports. A template was produced and sent to W115 members for completion. This included sections on national statistics, benchmark data, policies, strategies and legislation, guidance documents and reports linked to construction waste reduction, and exemplars or case studies.

This report is the third produced by W115 and provides a country view across Canada, Germany, Israel, Japan, Norway, Singapore, Slovenia, Switzerland, Turkey, UK, and USA.

Decoupling Waste Generation from Economic Growth

A key objective in many countries is to decouple the generation of waste from economic growth. It has been the case for many years that the amount of waste produced increases with economic prosperity. One reason for this is that the cost of materials reduces in comparison with the cost of labour, so it becomes 'cheaper' to waste materials rather than invest more time in using materials efficiently.



In most countries, construction waste accounts for a significant proportion of the overall wastes arising. Although it is still the case that many countries lack good data in this area, which is a key step in knowing where to prioritise waste reduction. However, the cost of waste is typically underestimated in both economic and environmental terms. Waste reduction is also difficult to measure, in order to make compelling business cases to change practices or products.

Key Issues

Understanding and identifying key issues is crucial to drive forward waste reduction, this includes:

- Benchmarks for waste production linked to construction activity, for example typical wastage rates of a product or material. This enables targets to be set for improvement and waste reduction can then be measured.
- Understanding the composition and causes of waste. This enables actions to reduce waste to be identified and prioritised.
- Understanding the financial cost of waste: The overall cost of waste is a combination of the cost of materials wasted, labour to produce waste & clear it up, plus the cost of disposal or recovery.

- Understanding the environmental cost of waste: This includes the environmental impacts associated with manufacturing and distributing the wasted products, e.g. embodied energy, which is usually far greater than the subsequent impacts associated with managing the waste material, especially if it is reused.
- Landfill tax or bans: Have the effect of increasing the cost of waste management, which in turn increases the focus companies may have on preventing waste.
- Voluntary commitments and agreements: Can lead to pan sector and supply chain improvements.
- Supply chain partnerships: Can promote less wasteful practices such as pre-cut materials, return of excess product and packaging, standardisation of stock.
- Green Building standards to include credits for waste reduction and/or minimum performance requirements relating to waste generation.



Waste reduction (also called prevention or minimisation) has been at the top of the waste hierarchy for many years, but has been typically overlooked in both business resource efficiency support and government policy. Although a great deal of focus has been on recycling and energy from waste, more attention is now being placed upon waste prevention, for example in the EU.

Complexity of Issues

This report shows the range and complexity of issues faced when trying to reduce construction waste. For example, there is still a great deal of confusion over the definition of the waste stream and the delineation between preventing waste from being produced and recycling or recovery of waste that has already been produced. These are fairly fundamental areas that need to be tackled before there is any comprehensive or consistent mechanism to actively reduce waste. The major issue perhaps is the intangible nature of prevention – how to set targets and measure progress.

Several countries are already trying to pin down such concerns and it will be interesting to see how they evolve over time.



In this time of economic uncertainty and constraint, the need to conserve resources and reduce costs has never been greater. This report provides a valuable insight into the progress being made towards Construction Materials Stewardship and how we could all improve further into the future.

Access to the Report

The Report is downloadable free [here](#).

Working Commission W115 on Construction Materials Stewardship of the International Council for Research and Innovation in Building Construction (CIB) was formed in September 2006. The mission of W115 is to drastically reduce the deployment and consumption of new non-renewable construction materials and to replace them with renewable ones whenever possible.

Additional Information

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You can find more information on the activities of CIB W115 in the CIB online Database "Commissions": see [here](#). In the shown search engine type "W115" in the field "Commission number" and press "Find records".