Construction and demolition waste (CDW) should better contribute to resource efficiency
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The Roadmap to a resource efficient Europe[1], published in September 2011 by the European Commission stresses the need to turn waste into resource. Construction and Demolition Waste (CDW) contributes to one third of the waste generated in EU. Considering the huge Building stock in Europe, the construction sector will continue to produce significant quantity of waste from construction, renovation and demolition sites. Turning CDW, including renovation waste, into resource is then particularly relevant for Europe.

Metals are already systematically reused or recycled from demolition or renovation sites.

When a building reaches the end of its life, a considerable proportion of its metallic products can be directly re-used, as currently happens with metal-framed buildings. Being flexible and adaptable, the functional life of these parts can be extended. However, a robust life-cycle assessment should be carried out to avoid that the re-use option is promoted while in fact leading to more impact at the use phase. For example, most windows designed 30 years ago do not meet today's minimum performance requirements and can therefore only seldom be re-used.

When a metallic building product reaches the end of its life, it can be fully recycled. Already, today, more than 95% of the metallic products used in buildings are collected at end-of-life[2]. Small and medium-sized companies play a key role in the collecting and processing of metal-containing products, on their journey to metal-recycling installations.

High economic value is the main driver for this systematic collection and recycling. As metal recycling provides energy savings of between 60% and 95% compared to primary production, depending on the metal and the metal-bearing product, metal recycling creates a win-win situation for both the environment and the economy.

The reuse or recycling of metallic building products definitely saves resources.

Recycling non-metallic materials from CDW makes also sense

The environmental benefits resulting from the recycling of CDW have been recently put into light within a Portuguese study[3] done on large scale CDW recycling plant. The study shows that the energy and CO_2 savings can reach up to 8 times the burdens of the recycling operations provided the generated secondary materials are effectively reused or recycled into new products where they clearly substitute primary materials. The study shows that the environmental savings largely depends on the type and quality of secondary materials produced from the deconstruction, demolition and sorting operations. Hence, maximizing the environmental benefits resulting from end-of-life operations definitely requires adapted practices and processes leading to "clean" secondary materials or products which are effectively and efficiently integrated into the material supply chain of products, i.e. replacing and then saving primary materials.

Standards for measuring environmental benefits of CDW recycling and recovery are already existing

European standards have been developed within CEN/TC350 "building sustainability". These standards[4] define rules to develop the environmental product declaration for building products and to assess the environmental performances of buildings all along their life cycle. In particular, the benefits resulting from the end of life stage is addressed through a separate module (i.e. the so-called module D) where the primary resources saving through re-use, recycling and energy recovery

[1] COM(2011) 571 - Roadmap to a Resource Efficient Europe
[2] Collection of Aluminium from Buildings in Europe, TU Delft study for the European Aluminium Association, 2004
[3] Coelho, A. & de Brito, J. (2013). Environmental analysis of a construction and demolition waste recycling plant in Portugal – Part I: Energy consumption and CO2 emissions. Waste Management.
[4] EN 15804, Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products - EN 15978, Sustainability of construction works - Assessment of environmental performance of buildings - Calculation method

are reported. Maximizing resource efficiency at the end of life stage requests then to look not only at the burdens of the deconstruction and demolition operations but also at the positive effects of using back the secondary materials into applications where they substitute efficiently raw materials. As demonstrated in a technical document developed by the French association of producers of construction products (AIMCC) [5], this approach is the best methodology to demonstrate that end of life operations are effectively turning waste into valuable resources. This methodology is applicable not only to metals but also to any building material or product which is effectively recovered or recycled at the end of life stage. In addition, this approach allows integrating the "design for recycling" or "design for deconstruction" concept into the product development strategy and the corresponding Environmental product declaration.

EU waste policies should promote end of life treatments which are resource efficient.

As already done for many decades for metal products, several other sectors are now also paving the way for implementing recycling routes for their product or material especially if appropriate de-construction strategies can be implemented on-site. As example, the gypsum sector has initiated a European project to test a de-construction and recycling concept for plaster board[6]. The glass sector also sees deconstruction as a pre-requisite for recycling end of life glass from buildings back into flat glass applications[7]. A partnership is currently put in place to implement such strategy in France[8].

While closing the material loop definitely saves primary resources, moving to this circular economy concept in the building sector without down-cycling requests for those non-metallic materials important efforts and investments in term of de-construction practices, collection and recycling processes. Hence, economic, logistic and legislative burdens are still obstacles to their implementation. From a legislative perspective, it is then essential to develop a waste policy promoting the implementation of these recycling schemes in the building sector as it is already implemented for metal products. Hence, for recycling market which are not yet mature or implemented, economic incentives should also be developed for triggering the integration of secondary materials into the supply chain of products.

Considering that collecting robust figures and information from member state is a key step towards such a goal, the metal industry sees also a need to develop a guidance document at EU level in order to secure that the same terminology and harmonised metrics can be implemented to monitor effectively the level of completion of the various MS towards the defined targets. Such guidance can also be used for sharing the best identified practices implemented within Member States.

The metal industry recommends:

- Adding a specific CDW re-use and recycling target as complement to the present overall recovery target described in Art. 11§2 (b) of Directive 2008/98/EC that includes all recovery operations and backfilling.

- Securing that CDW includes renovation waste by improving the definition given in Art 1§4 of Commission Decision 2011/753/EU

[5] AIMCC - Technical Proposal for taking the net benefit of recycling construction material stocks into account in construction product Environmental Product Declarations (EPD) - ENV11032 DE

[6].Life+ project (LIFE11 ENV/BE/001039)A Circular Economy for the European Gypsum Industry with the Demolition and Recycling Industry

[7]. Recycling of end of life building glass, Glass for Europe's contribution http://www.glassforeurope.com/images/cont/38_83208_file.pdf

[8].Paprec, Lapeyre and Saint-Gobain partnership for the recycling of EoL windows, http://www.paprec.com/sites/default/files/cp_vd_partenariat_groupe_lapeyre_-_sggf_-_paprec_group.pdf