Materiales de Construcción
Vol. 67, Issue 325, January–March 2017, ed009
ISSN-L: 0465-2746

Editorial

'Circular economy' is a buzz-word we'll be hearing more and more frequently in the months and years to come. Its implementation may change Europeans' way and quality of life in the very near future. But what is a circular economy? What might it mean for industry, and more specifically construction and its materials?

In 2010 the European Commission identified 'resource efficiency' as one of the seven flagship initiatives in the Europe 2020 strategy. In 2011 the Commission introduced its 'Roadmap to a resource efficient Europe'. That document describes the goals to be met before 2020 to dissociate economic growth from the use of resources, focusing on economic sectors with the heaviest environmental impact, i.e.: food, housing and mobility. The roadmap has three lines of action, in the first of which, 'Transforming the Economy', the objective is to turn waste into a resource. The European Commission aims to progress toward a reuse- and recycling-based economy so that by 2020 waste generation converges on zero, making land fills a thing of the past.

In July 2015 European Parliament asked the European Commission to prepare a draft to further the transition from a 'linear (or cradle to grave) economy' (produce, use, throw away) to a 'circular (or cradle to cradle) economy' (design, produce, use, recycle), i.e., covering a product's entire life cycle from design to elimination, with an emphasis on recycling, repair or reuse. The target pursued in the resulting proposal is to raise waste management efficiency in the EU by 30 % in 2030 relative to 2014. On 2 December 2015 the European Commission adopted a regulation package to drive the transition to a circular economy in Europe. That entails converting waste into a raw material and reaching recycling rates of close to 100 %. Attaining such ambitious goals is no easy task and much work has yet to be done. Waste classification and separation systems need to be improved and hazardous waste management ensured to name just two tasks outstanding.

The circular economy may have a significant effect on construction and particularly on the construction materials industry, ranging from the nearly full reuse of construction and demolition waste to the development of new materials, in keeping with the life cycles of buildings and civil structures. New European standards envisaging and governing the presence of waste in the composition of construction materials may be needed before waste-cum-resource can be used in cement and concrete manufacture. Any such strategy would be geared to obtaining more durable, higher performing construction materials that also lower the energy consumption and emissions presently attributed to the industry.

In construction, these policies for transition to greater resource efficiency are particularly applicable to building materials. The use of industrial waste or by-products as alternatives in construction material manufacturing is an increasingly topical issue, although extreme care must be taken to ensure that the implementation of recycled waste poses no threat to people or the environment. In some cases high rates of natural radioactivity or the presence of certain chemical components or elements may adversely condition its use. That, in turn, will call for an in-depth and exhaustive study of waste and by-products prior to their possible valorisation.

The study and development of new construction materials bearing a higher and better controlled waste content are more necessary now than ever. Research in this field is open and of obvious national, European and international interest.

Francisca Puertas
Editor-in-Chief
Materiales de Construcción