Creating a better world: circularity in real estate and construction

All around the world, governments, companies, and NGOs have committed to minimizing raw material usage in the real estate and construction industry. In the Netherlands, for example, it was recently agreed that by 2030 a 50% reduction of raw materials usage needed to be realized.

Actions like these drive a general transition toward a circular economy—where resources and energy are renewable and regenerative and cycled back into supply chains. Though the transition to circularity faces several barriers, there are also opportunities. One of the opportunities being explored is the possibility of transporting financial value into materials in the construction industry.

Use cases have shown that real estate owners are often unaware of or underestimate the financial value of the materials in their real estate assets. These use cases show that upon demolition of a real estate asset, substantial financial value—adjacent to demolition, transport, and re-use costs—can be captured. This unexploited value can impact financial reporting, prompting the financial incentive needed to transform the real estate and construction sectors to a circular economy.

Financial incentives of a circular economy

There are several avenues of financial incentives that can be pursued to achieve a circular way of working in the real estate and construction industry. One example is increasing the adaptability of buildings. Rebuildings can be easily adapted to changing needs over time that can translate into lower costs. This also creates an increased opportunity of material usage as the building can be used for a longer period of time with reduced renovation costs and perhaps lower periodic maintenance.

This approach is particularly apt for real estate with high-maintenance, such as schools, care facilities and offices, with reversible building design having the potential to lower periodic use costs. While this definitely applies to new construction, it can be done for existing buildings. A possible solution lies in applying a materials passport and support the foundation financial meaning to materials.

Facilitating the transition to circularity

The potential positive impact of tapping circular ways of working in the real estate and construction industry is huge. In this research, Sander et al. (2016) show that buildings consume approximately 40 percent of all energy and approximately 40 percent of all primary raw materials. And while circularity can be achieved through a combination of material reuse and efficiency improvements, only strict regulation and/or financial incentives can achieve the second radical change circularity can accomplish.

Promoting circularity in buildings via regulation, however, ultimately comes down to political will—what is not expected to emerge any time soon. And current circularity financial incentives are not as clear and straightforward as a simple: based on global price benchmarks and corrected for demolition, transport, and re-use costs, the residual value of the materials.

The possibilities of a materials passport

A materials passport provides material with an identity, streamlining reuse of products. A materials passport is designed as an online library of materials in the built environment, providing one central view of all materials. This data includes all relevant information during the planning and execution phases of building administration and maintenance. The documentation and data can be useful for designing tender for renovation, demolition, or new developments as well as for certification and sales/lease purposes. One of the leading organizations in this approach is the Madaster Foundation, with its Materials passport materials has become the global standard. For example, one of the world’s largest real companies recently announced it will work with the Madaster materials passport and support the foundation wherever it can.

A real estate materials passport can also lead to a new way of viewing the financial value of materials. One possibility is being researched to a basis for incorporating the materials identified in a materials passport into the financial reporting—this, financially, activating the identity of those materials. The idea is simple: based on global price benchmarks and corrected for demolition, transport, and re-use costs, the residual value of the materials.

Moving materials value forward

In the Netherlands, research into the financial activation of materials and its impact on the balance sheet and financial reporting is being spearheaded by well-known architecture Thomas van Bergen and the “Circular Seven” (C7)—a group of seven of the most prominent organizations in different segments of the real estate and construction industry that is seeking to be a frontrunner in the transition to circularity. The reasoning for the C7’s approach of sustainability is twofold. First, the financial activator of materials still falls per segment based on regulations, such as the different rules for real estate valuation and depreciation. Secondly, the C7 can reach segment-specific insights and best practices, providing a more comprehensive view of materials valuation within real estate.

The C7 research will be published in Q2 2019 and available worldwide. The first of many steps toward a resource-efficient, low-carbon and circular economy, the C7’s research is dedicated to research that may very well change the potential for circularity in real estate and construction.

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