Creating a better world: Circularity in Construction

All around the world, governments, companies, and NGOs have committed to minimizing raw material usage in the real estate and construction industry as the demand for such materials keeps rising. More than half of all greenhouse gas emissions relate to materials management activities.1

Materials passports can function as a crucial tool in accelerating this shift. By changing the perspective on materials, the built environment becomes a material depot that can be re-utilized. A shift towards circularity is pressing, but remains a challenge. Materials’ passports can function as a crucial tool in this process.

Materials database: providing insight into reusable construction materials

A materials database is designed as an online library of materials in the built environment, providing real-time records of all materials that exist. This database includes crucial information about the material, such as its origins, properties, and capabilities. One of the leading organizations in this approach is the Madaster Foundation, with its materials passport fast becoming the global standard. Materials passports can be of use as a potential materials depot for future buildings. They provide materials with a documented identity and value—thus supporting the business case.

Materials passports take away information asymmetry by providing a complete and accurate record of materials and their status. From a financial value perspective, a materials passport is designed as an online library of materials in the built environment, providing real-time records of all materials that exist. This database includes crucial information about the material, such as its origins, properties, and capabilities. One of the leading organizations in this approach is the Madaster Foundation, with its materials passport fast becoming the global standard.

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Digitalization in the construction industry: a chance for a free ride on current developments

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Call to action: stimulate a feasible circular business case

The circular business case has proven to be complex, as the financial perspective remains dominant in investment decisions in construction and real estate. There are still hurdles to be overcome in order to accomplish a shift towards a circular construction industry. Reused and refurbished materials are often the more expensive option. At the same time, valuing reused and refurbished materials has proven to be hard—not least because of the lack of (public) circular marketplaces. Therefore, the industry as a whole must pick up the gauntlet to make circularity a viable business case. There is a need for frontrunners to create circular marketplaces and bring transparency to valuation in order to speed up the use of circular materials. In addition, we need governments to take a look at their tax regimes to see how they can stimulate the shift towards a circular construction industry by making the morally desirable more financially attractive.

Conclusion

Together with the Madaster Foundation and the Circular 8 (8 frontrunners in circularity: ASML, Bouwinvest, Erasmus MC, the Municipality of Rotterdam, Lefier, Rai Amsterdam, Shell, and Van Wijnen), Deloitte Netherlands has published research concerning the financial effects of applying residual value or future value of materials in property. Deloitte is continuously looking to facilitate the shift towards a circular construction and real estate industry by bringing down barriers in collaboration with partners in the ecosystem.