



04. An Interdisciplinary Approach to Circularity

Revaluing buildings using circular financial models

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Achieving circularity in the built environment requires more than just rethinking material use and sustainability practices—it demands a radical shift in the underlying economic models that drive construction, real estate, or urban development. This is because traditional approaches and business models are based primarily on financial returns.

Let's look at the *building scale* for example in more detail.

Traditionally, buildings are treated as investment assets that allow land use maximization, enable economic development, provide financial returns and create wealth. Building infrastructure, whether it's housing, commercial properties, or public spaces, requires the collaboration of multiple public and private parties and a significant financial investment. Without proper funding, projects cannot move forward. Therefore, the economic approach to the value of buildings has been predominant in practice.

Buildings are resource-intensive assets and are built to last from a technical point of view. However, due to changes in technology, design trends, regulations or usage patterns after a short period they no longer meet the needs or expectations of their users. Therefore, they (add “with time they might”) become functionally obsolete. This

leaves us with a high number of buildings that are abandoned, vacant or underutilized. Often, to make full use of them again, these buildings require significant financial investments.

So investors are often the ones that decide on the future of the building. Those decisions are based on value calculations. The expectation is that *economic value will be realized through future income such as rentals, appreciation – an increase in the price of the building when selling, and tax benefits such as tax deductions on mortgage interests or similar revenue streams.* Current building valuation methods (often) assume stable costs and income from a certain function of the building, a certain depreciation cycle of the building and relatively short investment holding periods. These assumptions are based on linear economy principles and do not promote long-term value creation or maximizing societal and planetary wellbeing that is necessary in a circular built environment.

Therefore, we need *new financial models* or valuation methods that would:

- 1) First, *combine financial indicators together with social and environmental metrics.* For example, incorporating CO2 emissions associated with construction, maintenance, refurbishment and demolition activities and understanding the



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value of carbon-neutral real estate. Or creating integrated reporting models, for example, ESG integration, that can demonstrate real estate's financial performance and social/environmental impact together.

2) *Address the building reuse potential.*

For example, there is a shortage of housing in the Netherlands as well as a shortage of building materials whilst the demand is high and growing. Therefore, building less and reusing and repurposing at the building level might be the solution if we are able to demonstrate the value of a prolonged building lifespan. This requires a good understanding of the costs of building adaptability.

3) *Address ownership and power issues.*

For example, real estate ownership can lead to wealth inequality when assets (and wealth) are concentrated in the hands of a few. This can lead to several other problems that relate to a short-term profit-seeking mindset. To tackle this, understanding consumers of the building, and changed use patterns is essential and creating shared building ownership or as-a-Service models for building components might be useful.

In summary, current financial and business models in the built environment are based on linear assumptions which means that they require continuous growth and use of resources and often disregard society and the users of the built environment. So, to enable truly circular transformation, we need to revisit value understanding and promote the value of buildings in broader than financial terms and for multiple stakeholders at the same time.