

# POPULAR SCIENTIFIC ABSTRACT

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## CIRCULAR TRANSITION OF AFFORDABLE HOUSING

Generating, social, environmental and economic value by design

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A brief **popular scientific abstract in English** of the PhD thesis. The abstract must be written using widely understood scientific terminology and comprise about one A4 page.

Transitioning to a circular economy is crucial for a sustainable society. Within the building and refurbishment industry, circular economy increasingly emphasizes sustainable economic growth without environmental harm and to a lesser extent, the inclusion of social aspects such as health and well-being. This unequal emphasis has given rise to alternative concepts like 'absolute sustainability' and 'regenerative transition,' where both environmental and social aspects are equally valued in a sustainable society. Expanding the circular economic mindset is therefore essential for a coherent transition that considers social aspects for future generations. The affordable housing sector constitutes a significant part of the building and refurbishment industry and has the potential to act as a catalyst for societal transition to a circular economy. Affordable housing associations, comprising 20% of Denmark's housing, can play a pivotal role in this shift due to their influence on greenhouse gas emissions. The affordable sector inherently has a social agenda as a guarantor of welfare. Therefore, evaluating social value is crucial to support the sector's transition to a circular economy, necessitating the development of practical tools and methods. The architectural profession plays a central role in ensuring and enhancing social value creation in affordable housing. However, the industry and the architectural profession still largely adheres to linear paradigms. This research project explores contextual conditions for transitioning to a circular economy in the affordable housing sector, presenting a circular process model as a framework for considering affordable housing's lifecycle. The project, conducted as an article-based industrial Ph.D., includes four scientific articles illuminating current tools and methods and revealing insights into challenges and driving forces for the transition. The project advocates for a radical shift in how building and refurbishment are perceived in today's value chain, recommending consideration of the lifecycle perspective and the implementation of new phase models for assessing social value integrated with circular economy principles in decision-making processes and practices within the affordable housing sector.