

# Towards a Holistic Approach to Retrofitting: A Critical Review of State-of-the-art Evaluation Methodologies for Architectural Transformation

ReVALUE publikationsresumé nr. 1

## Abstract

The building sector is well known to be responsible for a considerable part of the total European energy consumption. In the endeavor to implement radical reductions, there is an identified potential in addressing the existing building stock through deep renovations. These renovations make up complex, highly interdisciplinary systems. They involve stakeholders across a broad spectrum of disciplines and potentially affect the lives of a large number of occupants. The involved people bring different understandings of value in sustainability into a project and judge the outcome according to this understanding.

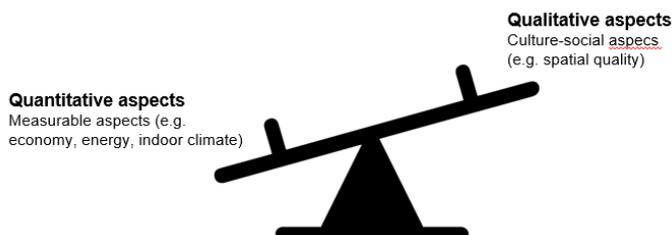
As a response to this, a number of sustainability assessment methodologies for the building industry, and specifically for that of retrofitting, have been developed to assist in the decision-making processes and ensure targeted results. However, these methodologies themselves represent a stance on sustainability as they assign weight to different sustainability indicators. As such, the same design may be assessed differently according to the chosen tool. As part of the research project RE-VALUE, this paper presents an evaluation of current practices in a Danish context through a systematic literature review of existing assessment tools. The paper presents the results of a meta-synthesis, which highlights the focus areas of the individual tool as well as patterns and relationships between the tools.

Based on the review we discuss a noticeable focus on quantitative, technical values in today's 'assessment practice' and put forward the hypothesis that there is a need to rank qualitative, 'non-technical' values alongside quantitative values in order to deliver significantly improved building performance, which benefits the people who inhabit the built environment. This hypothesis is substantiated through an additional literature review, from which we propose a need to develop a holistic methodology for assessing architectural transformations in deep renovations.

## Impact

The publication relates to the following tasks in the project:

- Task 1.1 "State-of-the-art literature review".
- Task 1.4 "Assessment of added value due to architectural aspects".
- Task 1.5 "Development of holistic framework for assessment of added value in building renovation".
- Task 3.2: "The added value of architectural transformation generated by energy-efficient renovation solutions"



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