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Evaluating the environmental adaptability of a nearly zero energy retrofitting strategy designed for Dutch housing stock to a Mediterranean climate.

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Abstract

Users' behaviour and indoor climate are two leading aspects that must be taken into account if we want the retrofitting of the housing stock to contribute to CO₂ reduction, comfort improvement and reduction of living costs. The integrated facade module evaluated in this paper, which constitutes an approach to zero energy renovation, includes a preliminary study for the identification of target occupants and their characteristics and requirements that will guide the design decisions. The proposed strategy primarily focuses on the case of social rental multi-family housing stock in the Netherlands, but should provide insights in the application of the concept in Europe. This paper presents the analysis of the adaptability of this solution to the Mediterranean climate, taking into account the specific characteristics of the occupants of this climatic zone.

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