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Importance of CO₂ Emissions in Construction Phase. Two Case Studies: New Construction and Renovated Building

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ABSTRACT

With the new Technical Code for Construction and Energy Certification (application of the EPBD in Spain) energy consumption and carbon dioxide emissions are now taken into consideration during building's operating phase. There is no doubt that this is a step forward. However, economic cost and emissions involved in extracting materials, manufacture, transport and installing on site (embodied energy in the materials used in construction) can be considerable and even more when promotor seeks to improve the building's energy rating with the corresponding increases in insulation, improvements in cladding and so on. Two case studies are used (new construction and renovation) in order to analyze both economic cost and CO₂ emissions in construction and operating stage (using LIDER and CALENER softwares) of two actual cases.

KEYWORDS

Carbon Dioxide; Embodied Energy; Building; Energy Certification

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