

Circularity Assessment Indicators in Sustainable Construction Sector

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Abstract

Circular economy plays a key role in sustainability strategies by reducing the use of non-renewable resources, waste generation, and environmental impacts. In the construction sector—characterized by high energy and material consumption—it is essential to adopt operational tools to assess project circularity. This study presents an applied case using the UNI/TS 11820:2024 standard, recently updated with indicators tailored to construction. Two Sicilian companies were analyzed: one using traditional methods and one specialized in green building and timber structures. Using energy audits, direct observations, financial statements, and ESG questionnaires, the study evaluates their circularity level (CL). Results show increasing attention to energy efficiency, waste management, and responsible water use. The findings suggest that circularity provides not only environmental benefits but also competitive and strategic opportunities for innovation in the construction sector.

Keywords

Circular economy, energy impacts, level of circularity, sustainable construction, UNI/TS 11820:2024.