

Progressive use of BIM for holistic energy renovation of office buildings

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Forum topics	<input type="checkbox"/> Energy in 21st Century	<input type="checkbox"/> Cultural Heritage in Digital World
	<input type="checkbox"/> Engineering Capacity Building	<input type="checkbox"/> Disaster Risk Management & Governance for Resilient Communities
	<input type="checkbox"/> Construction 4.0	<input checked="" type="checkbox"/> BIM Lifecycle, Facility & Asset Management

Abstract:

Problems - Issues / Challenges-Needs	<ul style="list-style-type: none"> Building information modelling (BIM) is becoming widely used to facilitate informed decision-making of the holistic energy renovation projects. Large data collections may be gathered that do not meet the information needs in energy renovation design, performance evaluation, (re)construction and operations. Insufficiently managed information often leads to sub-standard project deliverables, re-work, errors, budget deficits, and delays.
Solutions - Methods / Results - Findings	<p>Presented progressive BIM methodology suggests the specification of adequate information which matches the purpose of an evolving renovation design process with emphasis on energy performance, while addressing multiple sustainability aspects. This approach is based on firm methodological premises and validated on the actual refurbishment of office buildings.</p> <p>Results show that progressive BIM methodology can improve design, predict more accurately the actual energy consumption after the renovation is completed and reduce investment costs, prevent design and planning errors and construction delays.</p>
Novelty - Value / Relevance to ...	<ul style="list-style-type: none"> This approach provides alignment between design efforts and project outcomes for different levels of design services enabling performance based BIM design. Progressive use of BIM aids the design process of holistic energy renovation.
Forum statement	Progressive use of BIM increases the building value, performance, and provide a healthier and more comfortable environment for occupants.

Keywords:

progressive BIM, project information management, renovation, energy performance, sustainability

Graphics:

