

Sustainable Engineering: Synergy of BIM and Environmental Assessment Tools in Hong Kong Construction Industry

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Abstract : The construction industry plays an important role in environmental and carbon emissions as it consumes a huge amount of natural resources and energy. Sustainable engineering involves the process of planning, design, procurement, construction and delivery in which the whole building and construction process resulting from building and construction can be effectively and sustainability managed to achieve the use of natural resources. Implementation of sustainable technology development and innovation, adoption of the advanced construction process and facilitate the facilities management to implement the energy and waste control more accurately and effectively. Study and research in the relationship of BIM and environment assessment tools lack a clear discussion. In this paper, we will focus on the synergy of BIM technology and sustainable engineering in the AEC industry and outline the key factors which enhance the use of advanced innovation, technology and method and define the role of stakeholders to achieve zero-carbon emission toward the Paris Agreement to limit global warming to well below 2°C above pre-industrial levels. A case study of the adoption of Building Information Modeling (BIM) and environmental assessment tools in Hong Kong will be discussed in this paper.

Keywords : sustainability, sustainable engineering, BIM, LEED

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