عنوان مقاله:

Optimizing Time Performance in implementing Green Retrofitting on High-Rise Residential by using System Dynamics and M-PERT

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خلاصه مقاله:

Climate change is a threat and crisis that is engulfing the world today; therefore, the target of Net Zero Emission (NZE) by ۲۰۶۰ should be an obligation for all countries. The greenhouse effect, global warming, destruction of the ozone layer, forest destruction, uncontrolled use of CFCs, and industrial exhaust are factors that cause climate change. The consequences of climate change are dire, resulting in drought, water scarcity, land fires, rising sea levels, flash floods, melting polar ice caps, storms, and a decline in biodiversity. Green buildings (GB) are important in saving energy, water, and other resources by meeting technical construction standards and applying green building principles according to their function and classification at each stage of their implementation. Buildings with measurable performance. Expected to reduce carbon or greenhouse gas emissions. The latest Technical Guidelines for Green Building Performance Assessment Standards were developed through regulations from the Ministry of Public Works and Public Housing (PUPR) No.۱ of ۲۰۲۲. The way to improve and find a solution to achieve a Green Building according to these regulations is by applying solar modules as an alternative energy source in the building under study, providing significant added value to the assessment process. This research aims to analyze whether the renewable energy source factor is an influencing factor in the application of the Ministry of PUPR Green Building in High-Rise Residential. This research framework is at least initiated from matters where M-PERT, which is an innovation and the latest method of continuation of the PERT method, is proven to be able to provide an accuracy of planning execution time of ۹۹% or with an error rate of ۱%. From the research results with the application of M-PERT, it is proven that it can provide an accuracy of implementation time of ۹۸.۹۳% in the Primary Rating, while in the Intermediate Rating, it can provide an accuracy of implementation time of ۹۹.۹۲% and ۹۸.۸۸% accuracy of implementation time for the Main Rating category. Doi: ۱۰.۲۸۹۹۱/CEJ-۲۰۲۳-۰۹-۱۲-۰۷ Full Text: PDF

کلمات کلیدی:

Green Building; SEM-PLS; System Dynamics; M-PERT; High-rise Residential; Time Accuracy.

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