Framework for integrating Buildingsô Energy Simulation Tools (BESTs) with Intelligent Decision Support Systems (IDSS) ï [Towards BEST-IDSS].

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Abstract

Along with the uprising need for sustainable buildings the use of Building Energy Simulation Tools (BESTs) became widely common among building engineers and architects. Challenges within the energy simulation process are also increasing as building's energy-related disciplines are inconsistently developing; and major challenges such as uncertainty, sensitivity, and multivariate analysis within the energy simulation process are widely discussed nowadays. The power of today's computational methods within the field of Artificial Intelligence (AI), in fusion with the well-established science of Decision Support Systems (DSS), forms Intelligent Decision Support Systems (IDSS); which are expected by the researchers to provide BESTs with the needed intelligence and expertise to solve the building's energy simulation and optimization challenges. This article points-out major challenges in dealing with Building Energy Simulation Tools BESTs; the article also points out recently developed AI capabilities and significant applications. The article finally concludes a framework for integrating BESTs with IDSS.

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