

THE NEED FOR BUILDING ENERGY ANALYSIS

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ABSTRACT: Buildings are large consumers of energy in Saudi Arabia and are therefore prime candidates for conservation activities. Since they are replaced very slowly and most existing buildings are not energy efficient, retrofitting would be essential to optimize energy usage. Alternative building design strategies should be explored and their impact on energy consumption should be assessed. Building energy analysis is the most effective mean to evaluate alternative energy conservation opportunities (ECOs). This ranges from simplified manual methods for rough energy use estimates to detailed computerized hourly analysis. Such analysis in the early design phases of a project will help forecast the thermal performance of buildings and explore alternative energy conservation measures, therefore, saving operating cost and helping the environment due to less energy use. This paper presents the potential of various building energy analysis tools and the need for utilizing such tools in the design process of new as well as retrofitting of existing buildings especially in Saudi Arabia.