

Impact of Design Choices on the Life Cycle Energy of Modern Buildings

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Abstract : Traditionally the embodied energy of design choices which reduce operational energy were assumed to have a negligible impact on the life cycle energy of buildings. However with new buildings having considerably lower operational energy, the significance of embodied energy increases. A life cycle assessment of a population of house designs was conducted in a mild and mixed climate zone. It was determined not only that embodied energy dominates life cycle energy, but that the impact on embodied of design choices was of equal significance to the impact on operational energy.

Keywords : building life cycle energy, embodied energy, energy design measures, low energy buildings