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Evaluation of the Architect-Friendliness of LCA-Based Environmental Impact Assessment Tools

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Abstract : The focus of sustainable building is gradually shifting from energy efficiency towards the more global environmental impact of building design during all life-cycle stages. In this context, many tools have been developed that use a LCA-approach to assess the environmental impact on a whole building level. Since the building design strongly influences the final environmental performance and the architect plays a key role in the design process, it is important that these tools are adapted to his work method and support the decision making from the early design phase on. Therefore, a comparative evaluation of the degree of architect-friendliness of some LCA tools on building level is made, based on an evaluation framework specifically developed for the architect's viewpoint. In order to allow comparison of the results, a reference building has been designed, documented for different design phases and entered in all software tools. The evaluation according to the framework shows that the existing tools are not very architect-friendly. Suggestions for improvement are formulated.

Keywords : architect-friendliness, design supportive value, evaluation framework, tool comparison
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