

Target topic: achieving sustainability, saving energy, and improving occupant comfort“

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Title

Economic Life Cycle Assessment as element of sustainability certification – a key success factor moving beyond Life Cycle Costing

The move from considering environmental impacts in building design, commissioning and operation to the consideration of sustainability aspects has significantly enlarged the scope of aspects to be addressed, especially in assessment schemes. While assessments now turn more complex both to generate and to appraise and apply the presented results, this move also enables a broad range of market actors to find their interests reflected as part of sustainability claims. Applying the established basis of international standards, namely the series on sustainability of construction works, and relating to the emerging European standards in this field, the recently established German Sustainable Building Council (GeSBC / DGNB) presented a certification scheme applying a holistic life cycle model.

While including classical criteria approaches – quite similar to the LEED approach, life cycle assessments of environmental and cost criteria are presented. Opening the economic assessment to include costs as well as criteria reflecting the development of value over time actually creates large attention to the model from a broad range of stakeholders. The need to communicate both the adverse impacts as well as the value (in terms of qualities) provided to different user- and interest-groups creates a new kind of appreciation for the formerly sometimes even despised environmental assessments. The appreciation of presenting a balanced model addressing the relevant spheres of sustainable construction equally is the core reason for this appreciation.

Taking the model to application and refining it to new building categories is currently a main task of GeSBC – the further development of the chapter on economic criteria being in main focus. Features of the assessment model, and especially of the economic assessment including LCC, are presented and discussed at hand of a real design building, where the authors performed the auditing according to the GeSBC scheme. The building is raised on a tight inner city lot in a closed street front, only a few yards off Checkpoint Charly in central Berlin. The very stringent constraints spurred the investor and the design team to create an architecturally individual building with highest ambitions in terms of sustainability.

Presenting the ability to take ambitious architecture into a performance-based sustainability assessment scheme was the reasoning that convinced the design team to actively participate in the certification project. They see the ability to discuss their architectural concept, the provided performance quality in the light of the ongoing and strengthening sustainability discussion as a key market success factor.