

# PROJEKTSTART IEA EBC ANNEX 72 – BEWERTUNG VON UMWELTWIRKUNGEN WÄHREND DES GESAMTEN LEBENSZYKLUS VON GEBÄUDEN

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## Abstract

Due to its enormous energy consumption – about 40 % of global consumption, mostly from non-renewable energy sources – the construction sector is a top priority when it comes to reducing energy consumption and associated negative environmental impacts. Against the backdrop of ambitious international agreements on tackling climate change (COP21 Paris Agreement), the declared goal of the International Energy Agency (IEA) and the European Union (EU) is to reduce “greenhouse gas emissions to 80-95 % below 1990 levels (European Commission (EC) 2011).

The current strategy of IEA Energy in Buildings and Communities Technology Collaboration Program (EBC TCP) explicitly mentions the need to reduce overall energy consumption and CO<sub>2</sub>-emissions in the building life cycle (IEA 2013). It also points out the need for harmonization of evaluation methods and their practical application in the design and construction process. A transparent and harmonized assessment methodology of the environmental impacts of buildings over their entire life cycle is crucial to achieving the ambitious goals of the global community as well as the requirements with regard to the construction sector at European and national levels.

Thus, the IEA EBC Annex 72: Assessing Life Cycle Related Environmental Impacts Caused by Buildings focuses on the harmonization of methods for the evaluation of embodied and operational environmental impacts (primary energy demand, greenhouse gas emissions and other indicators) throughout the life cycle of buildings – following a Life Cycle Assessment (LCA) approach.

In order to support the applicability of harmonized methods during design, the integration into digital design and planning processes is examined as well as the potentials for development of benchmarks at the building level based on numerous international case studies. The development of LCA databases is to be supported for participating countries in which no regional databases are available.

In addition to scientific reports on the harmonized assessment method and findings from the analysis of case studies regarding potential benchmarks, specific guidelines for the application of the assessment method in the design process will be prepared and made available to architects, engineers and other design professionals.

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