



Life Cycle Assessment: Methods and Tools to Achieve Sustainable Decarbonization and Circular Economy in the Building Sector

Guest Editors:

Dr. Serena Giorgi

Department of Architecture, Built environment and Construction Engineering (ABC), Politecnico di Milano, 20133 Milan, Italy

Dr. Monica Lavagna

Department of Architecture, Built environment and Construction Engineering (ABC), Politecnico di Milano, 20133 Milan, Italy

Dr. Damien Trigaux

EnergyVille / KU Leuven / VITO, Genk, Belgium

Deadline for manuscript submissions:

closed (15 May 2025)

Message from the Guest Editors

Dear Colleagues,

At the European level, the building sector accounts for approximately 50% of all material extraction and 37.5% of total waste production. Furthermore, it is responsible for 40% of the primary energy demand in the EU and 36% of greenhouse gas emissions. Reducing the impact of the building sector is a priority for achieving the environmental goals related to decarbonization and the circular economy.

In this context, Life Cycle Assessment (LCA) is a well-established method that allows for the assessment of the potential environmental impacts caused throughout the building life cycle and, consequently, the definition of strategies to achieve environmental sustainability. LCA in the building sector can be applied at different scale levels: the entire building, the building element, and the building component.

This Special Issue aims to gather original contributions and review articles focusing on the application of LCA in the building sector regarding the following:

- LCA to support policies and regulations;
- LCA as a design support tool to reduce the building life cycle impact;
- Development of LCI and EPD databases to improve data quality.





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Editor-in-Chief

Prof. Dr. Sergio Ulgiati

1. Department of Science and
Technology, Parthenope
University of Naples, Centro
Direzionale, Isola C4, 80143
Napoli, Italy
2. School of Environment, State
Key Joint Laboratory of
Environment Simulation and
Pollution Control, Beijing Normal
University, No. 19 Xijiekouwai
Street, Beijing 100875, China

Message from the Editor-in-Chief

Environmental issues are quickly becoming central political, economic and academic topics of the twenty-first century. A large number of modern challenges are directly or indirectly caused by complex interactions between environmental issues. Such issues require interdisciplinary research, knowledge and insights to understand and, ultimately, for solutions to be found. Through the journal *Environments*, we strive to create a platform for meaningful discourse by accepting contributions from a wide range of fields. We sincerely hope you will consider publishing your distinguished work in this highly-accessible, peer-reviewed journal.

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Contact Us

Environments Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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