

Special Issue on
Life Cycle Assessment for Carbon Neutral Construction

CALL FOR PAPERS

A life cycle assessment (LCA) analyzes all production resources to determine the environmental impact of a product, service, or process. The entire production process is examined, from the impact of the extraction and processing of raw materials (cradle) to recycling and final disposal (grave).

Human health and ecological effects must be considered, as well as resource use both before the product is manufactured, including the development of raw, auxiliary, and operating materials, and after its end of life, including recycling, reusing, or disposal. Environmental repercussions include the extraction of ores and crude oil, and the emission of waste and carbon dioxide. Life cycle assessments begin with an inventory of bricks, glass, PVC, electrical wiring, and other materials used in construction, which can compute the net mass of a building and the energy to build it. In the EU, buildings have energy consumption certificates that limit their energy use, which can then be used to estimate the total pollution caused by the residents of the building during its lifetime. LCAs should be used to analyze building materials for durable, sustainable construction. The LCA approach is practiced widely by many researchers, but the dissemination of such information is still in its early stages.

The aim of this Special Issue is to increase the transmission of research into LCAs. In recent years, the LCA approach has been used widely in civil engineering, in particular in material development and building construction process. We hope to gather research into the applications of LCAs and to act as a single point source of information for interested researchers. We welcome both original research and review articles related to LCA methods, processes, protocols, and frameworks focusing on building materials and construction.

Potential topics include but are not limited to the following:

- ▶ Concepts in life cycle assessment
- ▶ Sustainable approaches to engineering materials
- ▶ Sustainability and the construction process
- ▶ Protocols and frameworks of LCA focusing on building materials
- ▶ Energy management and sustainability in buildings
- ▶ Challenges in developing LCA tools for buildings
- ▶ Scientometric applications in the LCA of buildings
- ▶ A cradle-to-grave approach to sustainable materials development

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.wiley.com/submit?specialIssue=924403>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Editor

Gobinath Ravindran, SR University,
Warangal, India
r.gobinath@sru.edu.in

Guest Editors

Isaac I. Akinwumi, Department of Civil
Engineering, Covenant University, Ota,
Nigeria
isaac.akinwumi@covenantuniversity.edu.ng

Bashar S Mohammed, Universiti
Teknologi Petronas, Seri Iskandar,
Malaysia
bashar.mohammed@utp.edu.my

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