

## Special Issue

# Advances in Prospective Life-Cycle Assessment of the Built Environment for Climate Change Adaptation

### Message from the Guest Editors

Given the long life-span of buildings, designers and developers must be encouraged to identify effective and eco-efficient strategies that reduce the overall life-cycle (LC) burden of buildings. LC thinking promotes a circular economy perspective, fostering resource and energy efficiency by reducing the amount of raw materials used in construction, and promoting waste valorization during construction, use and end-of-life. Life-cycle assessment (LCA) is a broadly used methodology to evaluate the environmental impacts of buildings and identify hot spots and improvement opportunities. However, prospective LCA have not been applied to buildings. Considering future climate uncertainty, it is essential to predict how buildings and the urban environment would behave under future climate scenarios with an increase in global temperature. The existing building stock play an important role in boosting decarbonization targets, as most existing buildings are not energy-efficient and mainly rely on fossil fuels for heating and cooling, and use old technologies and inefficient appliances. Local synergies for creating district energy supply systems are not explored.

---

### Guest Editors

Dr. Carla Rodrigues

Dr. Sérgio Tadeu

Dr. Vanessa Tavares

---

### Deadline for manuscript submissions

closed (31 December 2022)



**Sustainability**

---

an Open Access Journal  
by MDPI

---

**Impact Factor 3.3**  
**CiteScore 7.7**



[mdpi.com/si/111519](https://mdpi.com/si/111519)

*Sustainability*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[sustainability@mdpi.com](mailto:sustainability@mdpi.com)

[mdpi.com/journal/  
sustainability](https://mdpi.com/journal/sustainability)





## Sustainability

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.3  
CiteScore 7.7



[mdpi.com/journal/  
sustainability](https://mdpi.com/journal/sustainability)



## About the Journal

### Message from the Editor-in-Chief

I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

---

### Editor-in-Chief

Prof. Dr. Marc A. Rosen

Faculty of Engineering and Applied Science, University of Ontario  
Institute of Technology, Oshawa, ON L1G 0C5, Canada

---

### Author Benefits

#### Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

#### High Visibility:

indexed within Scopus, SCIE and SSCI (Web of Science), GEOBASE, GeoRef, Inspec, RePEc, CAPIus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q2 (Environmental Studies) / CiteScore - Q1  
(Geography, Planning and Development)