

Special Issue

Towards Healthy and Low-Carbon Indoor Environments: Innovations in HVAC and Building Design

Message from the Guest Editors

Creating indoor environments that are both healthy and energy-efficient is an urgent challenge in the context of climate change, urbanization, and post-pandemic building use. Buildings account for a significant share of global energy consumption and greenhouse gas emissions, with heating, ventilation, and air-conditioning (HVAC) systems playing a central role. Recent global challenges—including the COVID-19 pandemic, energy crises, and extreme climate events—have underscored the need for building systems that can deliver both healthy indoor conditions and energy-efficient performance. A holistic and interdisciplinary perspective is urgently needed to foster indoor environments that are both low-carbon and human-centric. This Special Issue aims to bridge this gap by highlighting innovative research in low-carbon HVAC solutions, indoor air quality improvement, personalized environmental control, and sustainable building design, which will provide valuable insights and practical solutions for achieving sustainable, resilient, and livable built environments. We look forward to receiving your contributions.

Guest Editors

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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. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full 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. Steve W. Lyon

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