Special Issue

Smart Monitoring, Retrofit , and Decarbonization of HVAC Systems in Urban Buildings

Message from the Guest Editors

This Special Issue, entitled **"Smart Monitoring, Retrofit and Decarbonization of HVAC Systems in Urban Buildings,"** aims to provide a platform for applied researchers and practitioners to **cooperate with industry** and share recent advances in the assessment, optimization, and sustainable transformation of building environmental systems. Topics of interest include field-based performance monitoring, fault detection and diagnostics, chiller degradation analysis, energy-efficient retrofit strategies for existing buildings, indoor air quality management, low-carbon HVAC design, and the integration of digital and data-driven approaches for building energy optimization. We particularly welcome contributions addressing challenges in high-density urban contexts, critical building environments such as hospitals and transport infrastructure, and practical case studies supporting energy and carbon reduction goals. We invite you to contribute original research articles or comprehensive reviews that advance knowledge and practice in sustainable HVAC systems for the future built environment.

Guest Editors

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Deadline for manuscript submissions

30 September 2026

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/277933

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About the Journal

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

Editor-in-Chief

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