



## Net-Zero/Positive Energy Buildings and Districts

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### Message from the Guest Editors

Buildings use approximately 40% of all energy produced globally. Energy in buildings and districts is one of the main potential fields for the mitigation of emissions. This can be done by enhancing the energy efficiency of buildings, by using advanced buildings' designs, envelopes, and HVAC system components. In addition, and in order to reach carbon neutrality, it is necessary to integrate suitable onsite renewable energy generation, conversion, and storage technologies, which can offset imported energy from grids. Accordingly, various raising concepts for net-zero/positive energy buildings and districts (NZPEBD) have emerged in the recent years to shape cities into carbon neutral communities in the near future.

For this Special Issue, authors are kindly invited to submit high-quality papers on one or more of the following topics related to net-zero/positive energy buildings and districts (NZPEBD):





## Editor-in-Chief

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## 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.

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