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Accelerated Carbonation Technologies for Construction and Building Materials

Guest Editors:

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Deadline for manuscript submissions:
closed (30 November 2023)

Message from the Guest Editors

Our world is facing critical environmental challenges due to the extensive release of CO_2, and the production and use of concrete contribute a significant portion of these carbon emissions.....To mitigate global warming and the associated environmental changes, reducing the CO_2 released by construction and building materials has attracted significant interest.

This Special Issue aims to discuss the new advanced accelerated carbonation technologies to reduce the carbon footprint of construction and building materials, which also have good performance. Areas to be covered in this Research Topic may include, but are not limited to:

- Low-carbon concrete.
- Carbon curing.
- Low-carbon cement.
- Carbonation mineralization materials.
- Carbonation of recycled wastes (recycled concrete, IBA, steel slag, etc.).
- Biological carbonation mineralization.
- Life cycle assessment (LCA).
- Theory and simulations on carbonation technologies.
- Other accelerated carbonation technologies.

For further reading, please follow the link to the Special Issue Website at:

https://www.mdpi.com/journal/buildings/special_issues/GR8O660XM4

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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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