Special Issue

Sustaining the Waste-Energy Nexus: Thermal and Biochemical Pathways for Bioenergy and Waste-to-Product Valorization in Municipal and Industrial Streams

Message from the Guest Editors

This Special Issue focuses on advancing sustainable waste-to-energy conversion through thermal (e.g., gasification, pyrolysis) and biochemical (e.g., anaerobic digestion, fermentation) pathways for municipal and industrial waste streams. The scope encompasses:

- a) **Focus**: Innovative technologies for bioenergy production and waste valorization into marketable products (e.g., biofuels, chemicals, materials).
- b) **Scope**: Integration of circular economy principles in waste management, life cycle assessments, policy frameworks, and cross-sectoral applications (municipal/industrial).
  c) **Purpose**: To bridge knowledge gaps in scalable waste valorization systems that balance energy recovery, environmental impact, and economic viability.

The issue supplements existing literature by compiling cutting-edge research on integrated waste-energy nexus solutions, addressing scalability challenges often overlooked in fragmented studies. It provides a platform for interdisciplinary research that connects engineering innovations with sustainability metrics, thereby advancing the UN Sustainable Development Goals (SDGs 7, 11, 12).

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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

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