



*energies*



an Open Access Journal by MDPI

## Recent Advances in Biomass Energy Torrefaction, Pyrolysis and Gasification Technologies

Guest Editor:

**Dr. Szymon Szufa**

Faculty of Process and  
Environmental Engineering, Lodz  
University of Technology, 90-924  
Lodz, Poland

Deadline for manuscript  
submissions:

**10 October 2024**

### Message from the Guest Editor

Dear Colleagues,

Biomass as a feedstock has huge potential to replace fossil fuels and it should reduce greenhouse gas emissions. Recently, the world's main problem is that CO<sub>2</sub> emissions are rising every year, and bioenergy has become the fourth largest primary energy source after oil, coal, and natural gas, and is proven to be very advantageous. Biomass torrefaction is a thermochemical process that treats biomass at 200–350 °C. It is carried out under atmospheric conditions and in the absence of oxygen. During the process, the water contained in the biomass as well as superfluous volatiles are removed, and the biopolymers partly decompose, releasing various types of volatiles.

By using thermochemical conversion of biomass feedstocks, it is possible to upgrade biomass feedstocks through the use of different types of valorization techniques.

This Special Issue will focus on different biomass torrefaction processes and their applications in low-carbon demand industries for the production of carbonized solid biofuels, biochar as an additive for organic fertilizers, biosorbents' production for chemical industry, and thermochemical process production.



[mdpi.com/si/201836](https://mdpi.com/si/201836)

# Special Issue



# energies



an Open Access Journal by MDPI

## Editor-in-Chief

### **Prof. Dr. Enrico Sciubba**

Department of Mechanical and  
Aerospace Engineering,  
University of Roma Sapienza, Via  
Eudossiana 18, 00184 Roma, Italy

## Message from the Editor-in-Chief

*Energies* is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), Ei Compendex, RePEc, Inspec, CAPlus / SciFinder, and other databases.

**Journal Rank:** CiteScore - Q1 (*Engineering (miscellaneous)*)

## Contact Us

---

*Energies* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/energies](http://mdpi.com/journal/energies)  
[energies@mdpi.com](mailto:energies@mdpi.com)  
[X@energies\\_mdpi](https://x.com/energies_mdpi)