

Special Issue

Catalytic Gasification of Carbonaceous Materials for Sustainable Energy

Message from the Guest Editors

The gasification of carbonaceous materials, such as coal, biomass, petroleum coke, etc., is an important technological route for clean and high-efficiency energy conversion. However, tar, fine particulate matter, AAEMs, sulfur, nitrogen, and chlorine-containing compounds generated from the gasification process threaten downstream equipment and applications. Catalytic gasification helps to improve efficiency, reduce tar content in syngas, regulate gas composition, and decrease investment costs; it thus has attracted increasing attention from researchers and the industry. This Special Issue focuses on topics such as H₂-rich syngas production, the removal of AAEMs, sulfur, nitrogen, and chlorine-containing compounds, gasification kinetics and mechanisms, tar cracking and removal, reactor design, process modeling, economic evaluation, carbon footprint analysis, etc. Original research papers, review articles, and short communications are all welcome.

Guest Editors

Dr. Juntao Wei
Prof. Dr. Bin Li
Dr. Xudong Song

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Catalysts
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
catalysts@mdpi.com

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Prof. Dr. Keith Hohn
Carl R. Ice College of Engineering, Kansas State University, Manhattan,
KS, USA

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