



## Sustainable Coal Beneficiation

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### Message from the Guest Editor

Dear Colleagues,

Coal continues to serve as a significant energy source, and its role in energy generation is expected to persist for decades, especially in developing economies facing limitations in swiftly adopting renewable and alternative energy sources. In light of its well-documented environmental impact, it is increasingly vital to continue coal research, with a focus on reducing the carbon footprint of both existing and emerging technologies. This approach seeks to strike a balance between energy security, affordability, and environmental concerns.

Current global coal reserves are estimated to be approximately 1035 billion tons, a supply projected to last roughly 140 years at current production rates. Unfortunately, the quality of the remaining coal resources is declining. Poor-quality coal with high ash content and low calorific value can lead to inefficiencies in the combustion process, resulting in higher CO<sub>2</sub> emissions per unit of energy produced.

The beneficiation of coal plays a critical role in future coal-based electricity generation, alongside improved combustion or gasification processes aimed at achieving sustainability goals. A similar approach applies to coal used as a reductant in metallurgical processes. This Special Issue is dedicated to exploring innovative and efficient coal beneficiation methods that can reduce the carbon footprint in subsequent utilization stages.

This Special Issue is organized into four sections:

- Section 1: Enhancing the efficiency of existing coal beneficiation processes.
- Section 2: Dry coal beneficiation and dewatering.
- Section 3: Fine coal processing.
- Section 4: Reprocessing coal discards.

We believe that this Special Issue will serve as a valuable resource for advancing our understanding of coal beneficiation and its role in minimizing environmental impacts while ensuring the continued use of coal as an energy source.





## Editor-in-Chief

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## Message from the Editor-in-Chief

*Minerals* welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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