Special Issue

Sustainable Waste Management: Waste Activation and Mineralization

Message from the Guest Editors

This Special Issue's primary objective is to include contributions that will pioneer carbon capture in mining industry, with the hope to improve the sustainable management of wastes caused by mining activities and contribute to carbon balance in the ecosystem. Solid wastes are inevitable byproducts of mining activity. The surface disposal of coal-based solid wastes has resulted in many environmental issues, which seriously limit the sustainable development of the mining industry. Unlike steel slag, which is rich in calcium elements and alkaline substances, the coal-based solid waste (e.g., coal gangue) is characterized by stable physical and chemical properties. This makes it difficult to directly react with carbon dioxide. To effectively improve the mineralization efficiency of coal-based solid waste, it is necessary to carry out physical and chemical modifications to increase the content of active SiO2 and Al2O3 in waste. When the activity of the waste is improved, it can be mixed with carbon dioxide for mineralization, and a better understanding of its mechanism is the foundation for controlling the degree of mineralization.

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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.

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