

## Special Issue on Zero Waste Approaches for Cost-Effective Treatment of Industrial Waste 2021

# CALL FOR PAPERS

Industrial waste is the high-volume material produced during manufacturing processes such as those of factories, industries, mills, and mining operations. The majority of the waste generated is considered problematic due to the dangerous and/or heavy minerals it contains and may pollute the air, the soil, or nearby water sources, thereby posing a great risk to the environment and health of local villages. Moreover, their accumulation in surface storage areas limits the habitats of living things. It is estimated that roughly 15 billion tons of industrial waste is generated every year. Most countries have enacted legislation to deal with the problem of these industrial wastes, but strictness and compliance regimes vary. Enforcement is always an issue. Equally, industrial waste that appears to be harmful, with effective techniques and greener technologies, can significantly reduce the volume of waste by using them as raw materials in other applications, such as in construction materials, and help economically sustainable waste management by contributing positively to operations.

In recent years, new approaches and technologies have been developed. These have significantly reduced the volume of industrial waste and their subsequent environmental hazards. A common element of these techniques is that wastes can be used as a raw and/or recycling material in other manufacturing processes. Recycling wastes for backfilling in underground mines and for raw material in construction have achieved great importance in countries. This will result in an opportunity for mines to protect resources and to reduce the expenses involved. However, these methods can be costly and difficult to implement and control, and their mid- and long-term viability is in question. Improved waste management options would enable the industry to recycle waste. Hence, there is an urgent, ongoing quest for efficient waste recycling methods. To achieve this, many researchers are now searching for alternative uses of industrial waste in construction and building sectors.

This Special Issue aims to present recent advances in the sustainable management of industrial wastes considering zero waste approaches. We kindly invite you to submit both critical review and original research articles.

Potential topics include but are not limited to the following:

- ▶ Emerging new technologies in zero waste approaches
- ▶ Waste prevention and management practices
- ▶ Reuse/recycling plans of industrial and mining wastes
- ▶ Legislation governing industrial waste disposal and suggestions
- ▶ Use of covers (barriers) built with wastes for the rehabilitation of tailings dams
- ▶ Use of wastes as supplementary cementitious materials in mortars or concretes
- ▶ Use of wastes for shotcrete operations to provide support in mining/tunnelling works
- ▶ Use of wastes as a soil additive in road construction as a mineral filler material
- ▶ Use of wastes in the manufacture of bricks and lightweight-aggregate blocks
- ▶ Use of wastes as low-grade fuel and mine backfill in different industrial sectors
- ▶ Use of wastes for controlling acid mine drainage and mining-induced subsidence

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.hindawi.com/submit?journal=amse>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

### Lead Guest Editor

Erol Yilmaz, Recep Tayyip Erdogan  
University, Rize, Turkey  
[erol.yilmaz@erdogan.edu.tr](mailto:erol.yilmaz@erdogan.edu.tr)

### Guest Editors

Shuai Cao, University of Science and  
Technology Beijing, Beijing, China  
[sandy\\_cao@ustb.edu.cn](mailto:sandy_cao@ustb.edu.cn)

Babak Koohestani, Tarbiat Modares  
University, Tehran, Iran  
[b.koohestani@modares.ac.ir](mailto:b.koohestani@modares.ac.ir)

### Submission Deadline

Friday, 3 December 2021

### Publication Date

April 2022