

## Special Issue

# From Disposal to Resource: Technological Innovations for Closing the Loop on Solid Waste

### Message from the Guest Editors

Global urbanization and economic growth are driving solid waste generation to soar at an unprecedented rate, with annual global waste production projected to reach 3.4 billion tons by 2050. The current linear management model of “collection–transportation–disposal” not only consumes vast amounts of land resources but also leads to severe greenhouse gas emissions and environmental pollution. Consequently, establishing an efficient, circular waste management system has become an urgent global priority. The core challenge lies in whether technological innovation can transform waste from an “environmental burden” into an “urban mineral” while meeting growing treatment demands—all without exceeding the Earth's ecological boundaries.

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