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# Editorial for the Special Issue on the Environmentally Friendly Management and Treatment of Solid Waste to Approach Zero Waste City

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Cities around the world are expanding rapidly, taking up vast resources (e.g., food, water, energy) to meet the demand of expanding economies. However, in conjunction with the relentless consumption of various resources, more and more waste is generated, posing a threat to human health and the environment [1]. By 2050, the worldwide MSW generation is expected to be 3.4 billion metric tons [2]. Around 53.6 million metric tonnes of e-waste were generated in 2019, and this figure is expected to reach 74.0 million metric tonnes by 2030 [3,4]. With such an immense volume of waste arising, the need for providing environmentally friendly management and advanced green technologies has become ever more important. This Special Issue in Sustainability, titled "The Environmentally Friendly Management and Treatment of Solid Waste to Approach Zero Waste City", compiles some of the recent research accomplishments in the field of solid waste management and treatment. It consists of seven recent papers, including two review papers, and covers MSW, hazardous waste, nuclear waste, etc.

"Zero Waste City (ZWC)" is an urban development model that minimizes the environmental impact of solid waste at the city level and is a specific practice of the Sustainable Development Goals (SDGs). Qin et al. [5] summarized the key points for realizing the construction of ZWC and the SDGs and made suggestions for promoting the construction of ZWC and forming a Chinese solution for the SDGs. They investigated the relationship between ZWC construction and sustainable urban development from the relevance of the ZWC index system in Foshan City and SDGs and analyzed the foundation and problems of ZWC construction in adjusting the industrial structure and improving the protection system.

In light of the coming wave of decommissioning and dismantling of nuclear facilities, Liu et al. [6] first analyzed the current status and future trends of global energy and nuclear energy, then comparatively studied various decontamination approaches and finally proposed the criteria and factors for selecting a decontamination process.

Waste minimization, reduction, conversion, and recycling approaches have received more attention with the ever-increasing cost and environmental impact of producing virgin materials. Awogbemi et al. [7] investigated zero-waste manufacturing and the various techniques for achieving zero waste by means of resource recycling. The benefits and challenges of applying innovative technologies and waste recycling techniques to achieve zero waste were also analyzed.

During the solidification/stabilization treatment of hazardous waste, it is of great significance to investigate the feedstock ratio of compound curing agents to reduce the capacity increment ratio and treatment cost. Yang et al. [8] studied the synergistic effects of cement and stabilizer on the mechanical strength and leaching toxicity of contaminated

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sediments. The stabilization mechanism was investigated as well. Sun et al. [9] compared two types of cement used as metal conditioners and curing agents to determine the more economical and effective ways to utilize river sediments.

GHG emission is an important research component of MSW management. Li et al. [10] conducted a preliminary study on the GHG emission characteristics of MSW treatment in Beijing from 2006 to 2019 and a detailed decomposition and analysis of the factors affecting GHG emissions and mitigation potential.

With the rapid development of aquaculture and the seafood processing industry, a large amount of seafood waste is produced globally every year. In light of treating this waste, Zhong et al. [11] prepared novel coral-like chitosan/silica porous composites by using in situ hydrolysis using chitosan as the carrier, triblock copolymer as the structure-directing agent, and ethyl orthosilicate as the silicon source.

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