Dear Editor(s),

We would like to submit the enclosed manuscript entitled “Predicting sludge generation pattern and carbon reduction potential under Shared Socioeconomic Pathways” which we would like to be considered for publication in “[Resources, Conservation, and Recycling](http://www.sciencedirect.com/science/journal/09213449)” as a research article.

China has the second-largest wastewater treatment capacity in the world, which poses a great challenge for urban environmental management. Besides, sludge treatment is associated with huge greenhouse gas (GHG) emissions. There is thus an increasing need to explore the future trends of sludge generation and its potential GHG emissions. While China’s water footprint has attracted extensive attention, few studies have so far attempted to predict the growth of sludge and associated greenhouse gas emissions in China. We combined the global framework of Shared Socioeconomic Pathways and China's characteristics to predict future sludge generation and associated GHG emissions at the provincial level. By regulating the key influencing factors of sludge generation and development characteristics, we guide sludge reduction and efforts to reverse the trend of rapid sludge increase, reduce GHG emissions generated by sludge disposal, and help achieve GHG reduction targets. Our findings show that as regional sludge generation and rates of increase vary, differentiated strategies can help reduce carbon emissions.

The authors have read many papers on the subject of remanufacturing and end-of-life management and the research was inspired by previous papers in this journal. We believe this manuscript will be of particular interest to general readers of [Resources, Conservation and Recycling](http://www.sciencedirect.com/science/journal/09213449).

This manuscript has not been published and is not under consideration for publication elsewhere. The authors have read the manuscript and have approved this submission.

Yours faithfully

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