

عنوان مقاله:

Environmental Evaluation of Electricity Generation from Anaerobic Digestion of Municipal Solid Waste: Case Study of Rasht, Iran

محل انتشار:

دوازدهمین همایش بین المللی انرژی (سال: 1397)

تعداد صفحات اصل مقاله: 12

نویسندگان:

Leyla Behrooznia - *Department of Agricultural Machinery Engineering, Faculty of Agricultural Engineering and Technology, University of Tehran, Karaj, Iran*

Mahammad Sharifi - *Department of Agricultural Machinery Engineering, Faculty of Agricultural Engineering and Technology, University of Tehran, Karaj, Iran*

Reza Alimardani - *Department of Agricultural Machinery Engineering, Faculty of Agricultural Engineering and Technology, University of Tehran, Karaj, Iran*

S.Hashem Mousavi Avval - *Department of Food, Agricultural and Biological Engineering, the Ohio State University, Wooster, Ohio, United States*

خلاصه مقاله:

Due to increasing population of the world, the amount of municipal solid waste (MSW) has increased significantly. Accordingly, environmental issues associated with unconventional production of different types of MSW are more important than before. MSW management practices are important for the governments and policy-makers to develop more sustainable and environmentally friendly systems. Anaerobic digestion is a new MSW management technique and it can generate biogas and consequently electricity. Also, the remaining sludge substances during anaerobic digestion is a potential source of fertilizer. The objective of this study is to evaluate environmental emissions of electricity generation from anaerobic digestion of MSW in Rasht, Iran. The results showed that electricity generation potential, using an anaerobic digestion method, was found to be 4.99 MW/day. For environmental evaluation the life cycle assessment technique was applied using CML-IA baseline V3.04 / World 2000 method available in SimaPro 8.3.0, and 11 impact categories were investigated. Finally, the results were normalized and weighed. The results showed that marine aquatic ecotoxicity was the most effective impact category caused by AD. Also, the sodium hydroxide production and MSW transportation were the main contributors to environmental emissions of AD in this region.

کلمات کلیدی:

MSW; Anaerobic Digestion; Electricity; LCA

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/848432>



