

Waste to Energy Plants for Energy and Municipal Solid Waste Management in Indian Perspective

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Abstract

Rapid growth of population in India is causing mass accumulation of waste generated in daily life. In India, per capita Municipal solid waste (MSW) generation is 200-600 grams per day. 62 million tons of waste is generated annually in country at present. It will raise upto 165 tons by 2030. 75-80% of MSW is dumped in landfills. The impact of growing amount of landfills on society is the clashes between local people and municipal authority. A study in Indian perspective reveals that methane emission from land fill is almost proportional to GDP of country. Since, MSW is the 3rd largest source of methane, large landfills are another challenges for climate.

Waste to Energy (WtE) plants provides solution of disposal of MSW, land constraint and mitigates GHG emission also. High population, land constraint for landfills, and high rate of rise of MSW paves the way for adoption of WtE plants as sustainable way of MSW management in India. Despite of success stories in Asian countries, WtE plants did not attract much attention of policy makers in India.

This paper is focused on the evolution of studies on MSW and WtE plants along with drivers, then develops the solution for successful operations of WtE plants in India.

Keywords

Waste to Energy plants, Municipal solid waste, Waste management

Biographies

Rajat Agrawal is an Associate professor in the Department of Management Studies, Indian Institute of Technology, Roorkee. His area of interest is Operations Management, Manufacturing Strategy and Sustainable Development. He is also Associated Faculty member at Centre for Transportation System and Centre of Excellence for Disaster Mitigation and Management. He is also IPR chair coordinator at IIT Roorkee.

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