

# A System Design for Solid Waste Management and Cogeneration of Gas with Waste Activated Sludge

**Prof. Popatrao P Jadhav**

Sr. Lecturer, Department of Civil Engineering, Pimpri Chinchwad Polytechnic, Pune, India

**Abstract:** Disposal of biodegradable waste has become a stringent waste management and environmental issue. As a result, anaerobic digestion, has become one of the best alternative technologies to treat the municipal solid wastes and can be an important source of bio energy. This study focuses on the design various set up required for treating solid waste using waste activated sludge. The evaluation of biogas and methane yield from the digestion and co-digestion of mixtures of Waste Activated Sludge and Solid Waste is a dual advantage in this treatment process. An alternative treatment strategy for solid waste is anaerobic biological treatment, either in anaerobic digesters or in landfill bioreactors. Anaerobic biological treatment can be a sustainable alternative to current disposal strategies because it reduces the volume of Solid Waste, stabilizes it, produces a residue that can be used for soil conditioning, and recovers energy from Solid Waste in the form of methane.

**Keywords:** Disposal, Solid Waste, Activated Sludge, Sewage, Digestion, Anaerobic Digestion.

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