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Food Waste Utilization: A Contemporary Prospect of Meeting Energy Crisis Using Microbial Fuel Cell

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Abstract : Increased production of food waste (FW) is a global issue that is receiving more attention due to its environmental and economic impacts. The generation of electricity from food waste, known as energy recovery, is one of the effective solutions in food waste management. Food waste has high energy content which seems ideal to achieve dual benefits in terms of energy recovery and waste stabilization. Microbial fuel cell (MFC) is a promising technology for treating food waste and generate electricity. In this work, we will review energy utilization from different kind of food waste using MFC and factors which affected the process. We have studied the key technology of energy generated from food waste using MFC to enhance the food waste management. The power density and electricity production by each kind of food waste and challenges were identified. This work explored the conversion of FW into energy from different type of food waste, which aim to provide a theoretical analysis for energy utilization of food waste.

Keywords : energy generation, food waste, microbial fuel cell, power density
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