

Evaluation of Biogas Potential from Livestock in Malawi

Authors : Regina Kulugomba, Richard Blanchard, Harold Mapoma, Gregory Gamula, Stanley Mlatho

Abstract : Malawi is a country with low energy access with only 10% of people having access to electricity and 97% of people relying on charcoal and fuel wood. The over dependence on the traditional biomass has brought in a number of negative consequences on people's health and the environment. To curb the situation, the Government of Malawi (GoM), through its national policy of 2018 and charcoal strategies of 2007, identified biogas as a suitable alternative energy source for cooking. The GoM intends to construct tubular digesters across the country and one of the most crucial factors is the availability of livestock manure. The study was conducted to assess biogas potential from livestock manure by using Quantum Geographic information system (QGIS) software. Potential methane was calculated based on the population of livestock, amount of manure produced per capita and year, total solids, biogas yield and availability coefficient. The results of the study estimated biogas potential at 687 million m³ /year. Districts identified with highest biogas potential were Lilongwe, Ntcheu, Mangochi, Neno, Mwanza, Blantyre, Chiradzulu and Mulanje. The information will help investors and the Government of Malawi to locate potential sites for biogas plants installation.

Keywords : biogas, energy, feedstock, livestock

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