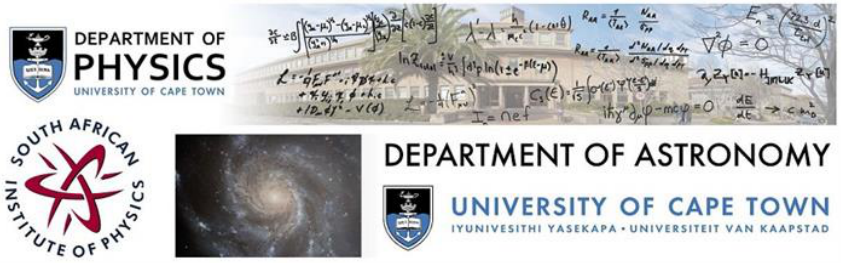

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A review on the benefits of Biogas Technology from the Renewable Energy, Environment and Agronomy perspectives

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Abstract content
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Across the globe, the conventional sources of energy including coal, oil and natural gas are non renewable and as such are faced with challenges of depletion over time as well as high cost, environmental and public health hazards. In this light, biogas technology utilizing biomass has been considered as a powerful tool to address the afore mentioned challenges presented by the use of conventional energy sources. It is the anaerobic breakdown of the organic wastes by the concerted activities of four metabolically linked microorganisms in an airtight chamber to ultimately yield methane, carbon dioxide plus others. Plants and animal wastes are often regarded as the principal substrates since they are often produced in large quantities and their supplies are not affected overtime. Microorganisms are said to be ubiquitous in nature therefore they are present in these wastes from animal origin, feeds or might be deposited into these wastes during collection of the wastes for disposal. The process of biogas production can be influenced by physicochemical, operational and microbial factors. The degradation of these organic wastes will often result in sanitization thereby causing the treated wastes to be less harmful compared to its raw status. Hence, pathogens of environmental and public health significance can be reduced to threshold levels recommended for safety. In addition, these wastes contain macro and micronutrients that become readily available to plants after microbial anaerobic degradation process. The effluent can be applied as a biofertilizer for the growth of plants and crops to improve on food security. This will help to minimize the use of synthetic chemical fertilizers that have been reported to cause damage and transformation of the natural ecosystems. Furthermore, the biogas technology often generates biogas which can be used for cooking, lighting and or harnessed to produce electricity.
Keywords: Biogas technology, public health, Environment, Agronomy

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