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ASSESSMENT OF DEMAND CONSUMPTIONS AND POTENTIAL VIABILITY OF INSTALLATION OF BIOGAS DIGESTER IN MELANI VILLAGE EASTERN CAPE, SOUTH AFRICA

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Abstract: South Africa relies heavily on traditional fossil fuel sources, especially coal. The country initiated the production and distribution of several renewable energy technologies to solve the energy problem in rural areas. Biogas has been proven viable and has begun as a promising technology among several technologies. It has been one of the most successful models for producing clean, environmentally friendly, cost-effective energy sources and has multiple benefits. This paper discusses biogas technology's potential and economic benefits to Melani village households. To measure the demand consumption, onset CTA-A hobo current transducers were installed in three homes to measure the electrical current used in summer and winter. The Data acquisition system has shown that each household consumes an average of 140 kWh of electricity per month. Finally, an analytical life cycle cost analysis of the biogas digester shows that the simple payback period would be approximately 1.1 years.
Keywords: Biogas digester, household, economic, energy, and payback period.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

MSC

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