Abstract

Renewable energy has an imperative role in this world nowadays. The Renewable energy is derived from natural resources like sun light, rain, wind, tides and geothermal heat which are physically replenishing day by day. Wind energy, solar energy, bio-fuel, biomass and geothermal energy are the main types of renewable energies used at the moment. Out of these types, Bio-mass has a pertinent role in the generation of electric power as it is available all the time. Village households basically rely on wood and cow dung and other crop residues to meet up their energy necessities. Conversely, solar home system (SHS) is getting fashionable in the non-grid areas, but per unit cost of this electricity is extremely elevated. Poor households cannot afford to buy such a luxurious system. Bio-degradable waste which has not been used efficiently in the past can be used as a source for Electric Power Generation (EPG). Heating of bio-degradable waste produces methane gas which can be used to produce electricity using methanol fuel cells. This paper presents methodology of power generation using methanol fuel cells and the environmental and socio-economic aspects of biogas plant in a small community or village. At the end, an effective representation to develop and run a bio gas plant has been recommended.
Modeling and Economic Analysis of Energy Generation from Biomass Energy

References

- V. Kallimani et al. "Design and development of a compact high rate digester for rapid bio methanation from a kitchen waste for Energy generation"; International conference on Sustainable Energy Technologies (ICSET), pp. 1-4

Index Terms

Computer Science

Applied Sciences
Keywords