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"KEY ELEMENTS FOR A SUSTAINABLE WORLD: ENERGY, WATER AND CLIMATE CHANGE"

Principles of Thermoelectric in Small Properties

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Abstract

Among the various types of renewable energy, biomass stands out as chemical energy with high energy density and ease of storage and transport conversion. The residues forming the biomass are from the anaerobic biological degradation of organic matter, and consist of a mixture of methane and carbon dioxide, where these materials are submitted by biomass reactor combustion for the production of biogas. The reactorr is a device designed to contain biomass and its product: the biogas. There are several types, are generally composed of two parts: a tank to house and allow the digestion of biomass, and gas tank to store the biogas. Biogas is a mixture of methane, 65% of the volume, and other gases in smaller quantities that represent the remaining 35%. By comparison, one cubic meter of biogas is equivalent to: 0,613 liters of gasoline, 0,553 liters of diesel, 0,454 liters of gas for cooking, 1,536 kilos of firewood, 0,790 liters of hydrated alcohol, 1428 w of power. Creativity allows multiplication of the use of biogas in an agricultural property, just for this, that the scale producers the ability to generate its bioreactor. Therefore, it can becomes a factor of real energy independence. The experimental part of this work is the production of biogas through the cattle, taking the first good results, however, with still some adjustments to achieve the main objective is the production of electricity through the gas. This gas is used as fuel for a stove that burns after heating the water thereby generating a certain pressure, the steam will be led by a simulated turbine that is connected to the generator thereby producing enough energy to meet the consumption and especially with the use of energy sources available, which provides clean and environmentally sound solutions for energy generation and low financial cost.

Keywords: biomass, bioreactor, biogas and generate electric.