



Use of cassava biogas for electricity production

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Abstract:

The bioenergy has turned into a good alternative for reducing the emission of pollutant gases. In Brazil, the use of this type of energy has increased in the last decades. Biogas, produced from cassava, appears as an alternative fuel to fossil fuels and, also, becomes economically competitive, since this is a low cost carbon source. Anaerobic biodigesters that use renewable raw materials are known as a technology with great potential for biogas production which is considered a source of clean energy. Biogas produces sustainable energy and consists mainly of methane (60%) and carbon dioxide (35% to 40%). This study presents the biogas potential from the cassava processing residual water for the production of dry flour (manipueira). The results of this study indicated that the biogas potential is 1.389.312 cm³ per year from a single-stage reactor with a capacity of 60 liters using manipueira as substrate and inoculated with cattle manure, which could provide a generation of electricity of 214 kwh/year.

Biography:

Jonni Guiller Ferreira Madeira is a mathematician with a Master's degree in Nuclear Engineering and PhD in Applied Math. He is a researcher and teacher at the Federal Center for Technological Education Celso Suckow da



Fonseca (CEFET-Angra dos Reis(Brazil)). Experience in following scientific areas: - Biofuels production (Biogas, Syngas from Biomass, Biohydrogen); - Bioenergy production ; Thermoeconomic tools; Life Cycle Analysis; Ecological Efficiency, Mathematical Modeling, Nuclear Energy.

Publication of speakers:

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2. Luft, M.; Olszowiec, P. Losses of IC engine—A chance for electrical energy recuperation. *Zesz. Nauk. Akad. Morska Szczec.* 2012, 30, 78–82

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