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Coffee and cocoa seed husk biomass as alternative for achieving a sustainable development in the eastern region of Cuba

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Cuba economy is growing. The economic agricultural policy pretends to triplicate the crops of coffee and cocoa for 2020, meaning an increase in waste biomass and the need for finding a proper use for the waste disposal. The eastern region of Cuba concentrates the 92% of coffee crops and almost 100% of cocoa, most of them in mountains and isolated regions where the use of coal from woody biomass is a very usual cooking technique. Also in this region is located the bigger metallurgic enterprises for the production of Ni and Co as sulphur, sinter and dust, process with a great incidence in the environment and consumption of a high quantity of fossil fuels. The present works evaluate the use of products (activated carbon, char, gas and oil) from pyrolysis-activation process of coffee and cocoa seed husk as a friendly and renewable energy source for achieving a sustainable development in the eastern region of Cuba throughout the use of clean energy, co-generation, and treatment of liquor wastes, soil amendment and reducing greenhouse effect. The energetic potential of coffee and cocoa is 784 946 MWh equivalent to 67 493 toe. The use of this waste biomass will uphold clean environment, decreasing the greenhouse effect and will aid as added income to farmers in rural populations.

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