



7th INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

Academic

“CLEANER PRODUCTION FOR ACHIEVING SUSTAINABLE DEVELOPMENT GOALS”

Sustainable Development, Energy Efficiency and Environmental Impacts in Coffee Farming Process

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Abstract

Efficiency and environmental impacts are key factors in the different dimensions that integrate the relationships between Energy, Territory and Development (ETD), so they can be treated as inherent characteristics of the systems under analysis, whose measurement and evaluation allows to obtain a vision about the dynamics of energy use and the use of resources while promoting the formulation of strategies to jointly achieve the maximization of the desired results and the minimization of the negative impacts associated with existing processes. This paper presents the results of the study of energy efficiency and sustainability in a sample of farms producing coffee in southwestern Colombia; This work is based on the application of a study of energy synthesis for the use of a unit of homogeneous measurement of energy, matter and information flows. Energy results were also integrated with data envelopment analysis (DEA) for the joint assessment of energy efficiency using the different sources, inputs, products and environmental effects, thus seeking to encourage the analysis and formulation of development strategies in the territory.

Keywords: energy synthesis, energy efficiency, emissions, coffee production, sustainability
