

Environmental and socioeconomic impacts of urban waste recycling as part of circular economy. The case of Cuenca (Ecuador)

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Urban mining by recyclers represents a positive environmental impact as well as being part of the waste management chain. This paper analyzes the contribution of waste pickers in the city of Cuenca in Ecuador and the conditions of their activity. This research has a two-fold objective. First, it calculates the reduction of greenhouse gas emissions resulting from the substitution of virgin raw material in the production process by using recycled urban waste. The second objective is to conduct a socioeconomic analysis of the workers involved in the urban waste sector. Cuenca (Ecuador) is the main city used for this case study, thanks to the accessibility of a rich database built from the survey conducted by the NGO Alliance for Development. The information contained in this survey facilitates the identification of potential consumers of the waste industry. This study uses Clean Development Mechanism methodology. Finally, this work proposes a theoretical model for solid waste management, applied to the city, following the principles of the circular economy. © 2020 by the authors.

Circular economy

Ecuador

Recycling

Urban mining

Waste material

accessibility

economic structure

environmental impact

greenhouse gas

nongovernmental organization

recycling

reduction

socioeconomic impact

solid waste

waste management

Azuay

Cuenca [Azuay]

Ecuador