

Towards Use of Cleaner Fuel in Urban and Rural Households in Colombia: Empirical Evidence from 2010 to 2016.

Jhon Pérez,^a Efrain Bernal,^b and Patricia. Rodríguez-Sánchez^c

Colombia has close of 6.5 million people or 13% of the population still use traditional solid fuels for cooking. The goal of this paper is to determine the main socioeconomic factors that conducting the cooking fuel preferences of Colombian households during the years 2010 to 2016. We developed a theoretical framework based on cooking fuel preferences of households in Colombia according to consumer's utility function. With this structure, we use a Multinomial Logit Regression (MLR) model using categorical variables to identify socioeconomic aspects. For empirical analysis from the Colombia Living Standard Survey (CLSS) conducted in the years 2010 and 2016. Therefore, was necessary to develop several maps related to the evolution of cooking fuel usage in rural, intermediate cities, and urban areas.

We checked the patterns of cooking fuel choice in Colombia by using CLSSs conducted in the years 2010 and 2016 and their relationship with the evolution of usage and selection of cooking fuels and were identified various socioeconomically significant variables such as type of household (mainly apartment and room); household property rights (mainly own and paying); household income and educational level of household head (all categories). At last the paper presents a discussion related to energy policy implemented in Colombia for substitution of fuels for cooking in rural areas, intermediate cities and urban areas. Further we explained the energy policy applied in Colombia in rural, urban and rural households in relationship to the energy transition. Reducing the use of solid fuels by modern fuels.

This paper contributes with the literature specially due there are few works in the literature related to the selection of cooking fuel, especially in the Andean countries (Colombia, Venezuela, Peru and Bolivia). Therefore, in the application of energy policies in developing countries regarding to substitution and fuel massification of cleaner fuels and its implications in socioeconomic factors. The results reveal that an increase in the level of education multiplies the odds of choosing NG over any other cooking fuel. Policy makers need to address the problem of investment in the implementation of renewable energies, which they are higher than traditional ones.

*Corresponding author. Faculty of Engineering. La Salle University, Block C, Floor 7th, Bogotá D.C.- Colombia. E-mail: jjperez@unisalle.edu.co.

a Corresponding author. Faculty of Engineering. La Salle University, Block C, Floor 7th, Bogotá D.C.- Colombia. E-mail: jjperez@unisalle.edu.co.

b Faculty of Engineering. Block C, Floor 7th, Bogotá D.C.- Colombia. La Salle University.

c Business Administration Program. Bogotá D.C.- Colombia. Universidad Militar Nueva Granada.