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***Pellets Penetration in Southern Europe: Evidences for the Households Characterization***

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**Keywords:**  Biomass, Pellets, Renewables, Energy Markets, Regional Structuring

**Overview**

The specific aims of this paper are to develop a model of the energy-related behaviours amongst rural and urban residents of the Southern Europe. To identify the variability of the pellets penetration in households, energy practices and energy-related technologies relating to household have been analysed, particularly for heating.

To identify opportunities for promoting larger pellets exploitation in the domestic sector, a behaviour change has to be promoted. Household energy behaviours were investigated and characterised through an empirical study, using a regression model designed to the underlying values and the existing barriers. Household surveys provided detailed data on how residents use and understand biomass energy and the pellets exploitation in a territory.

Considering the Region of Aragon (Spain) as a case study, the aim of this paper is to contextualise the pellets exploitation in the Region, at the household’s level and the related socioeconomic impact of using biomass energy in a regional scope and measure this. This will serve the purpose of demonstrating the potential of the pellets energy sector to reinforce economic activity, employment and social well-being in the countryside as well as the emission saving.

Aragon is a region located in the north east of Spain, with a surface area of 47,719 km2 and the lowest population density in Europe (28.2 inhabitants per km2 according the Aragonese Institute of Statistics 2011).More than 95% of the region of Aragon is included in the range of application of the Law 45/2007[[1]](#footnote-1) and approximately 42% of the Aragonese population lives in the countryside, where its population density is 3 times below the national average.

**Methods**

The field work was one of the main actions of this study: the search for information was performed by means of a survey aimed at households. The characterization of households was carried out the a regression model was used in order to obtain the statistical results.

**Results**

The participants’ households’ likelihood of considering the pellets exploitation practices and investments included in the survey. It shows the percentage of people who use the alternative energy, biomass or pellets. The most likely alternative-energy investments are in biomass and particularly in pellets. Besides of this, pellets penetration is already scarce in comparison with other European Countries.

The most commonly-used positive rationalisation for biomass energy use is economic efficiency, followed by situational opportunities. Environmental efficiency, convenience and comfort are not

**Conclusions**

The biomass and pellets energy sector is one of the key sectors for sustainable rural development of Aragon still having the potential to grow despite the technical maturity reached in some of the technologies used in households. This means that it can continue to grow or improve in terms of market and it will mean an improvement of the territorial structuring in rural areas.

Jointly with the construction of new pellets plants, the households characterization offer a good perspective in the fields of biomass and pellets in the rural areas, with the possibility of emission saving and to improve for stabilising the population in rural areas and contributing to regional structuring.

This paper reflects an interim point of analysis. Although the cluster analysis required for segmenting the households is beyond the scope of this paper, these interim results still provide some useful insights into households characteristics and behavior.

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6. COM(2001) 313 final, 20 June 2001 communication of the European Commission to the Board, the European Parliament, the Economic and Social Committee and the Committee of the Regions entitled “Social and employment policies - A framework for investing in quality”

1. The Spanish Law 45/2007 is the instrument for implementing the policy aimed at correcting the imbalance between the rural areas and cities within the same autonomous community and the definition of regional structuring used in this study was also obtained from it. [↑](#footnote-ref-1)