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Is the open data maturity of the Spanish energy sector sufficiently high to enable the successful deployment of a circular economy strategy?

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Statement of the Problem: In the recent past, sustainable supply chain management practices have been developed, trying to integrate environmental concerns into organizations by reducing unintended negative consequences on the environment triggered by production and consumption processes. In parallel to this, circular economy pushes the frontiers of environmental sustainability by emphasizing the idea of transforming products in such a way that there are workable relationships between ecological systems and economic growth. The exchange of information across the supply chain is essential, to guarantee the success of both. The purpose of this study is to evaluate the Renewable energy industry in Spain and determine the extent to which its underlying information framework enables a sustainable production of energy.

Methodology & Theoretical Orientation: Using the Open Data indicators designed, it is possible to assess its maturity with regards to openness and information availability, key requirements of a successful circular economy to identify the sustainable flow across the energy supply chain.

Findings: Although there has been progress, most of them are independent and local efforts.

Conclusion & Significance: Awareness of information gaps is a necessary step in the process of alleviating the problems identified. Recommendations are made about ways in which the problems could be overcome.

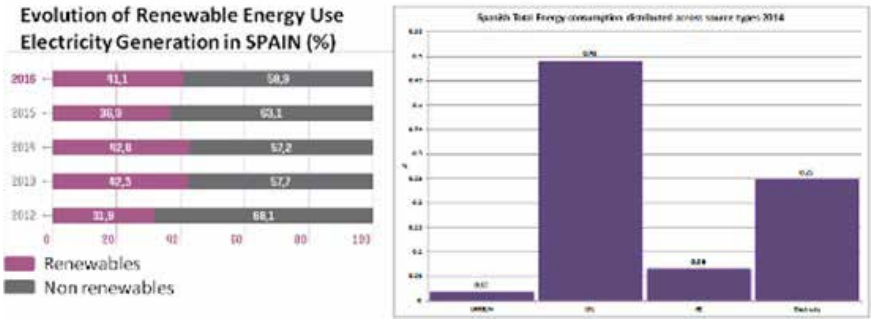

Figure 1: Current Distribution of Energy use

Biography

Elena Perez-Minana is an independent Environmentalist with expertise in data analysis. She has collaborated in research activities aiming to characterize how food security and other ecosystem services interact and how they are affected by climate change. As a member of the Computing Department at the University of Surrey, she worked on the application of Bayesian Belief Networks for estimating the GHG emissions produced by the UK Agriculture sector at the Farm level (BaNGAS). In the Telecommunications and Electronics sector, she carried out research on the application of Artificial Intelligence Techniques for improving the process followed to build the software embedded in electronic products. In Academia, she lectured mainly in Data Processing, and carried out research in Knowledge Based Systems. She holds undergraduate qualifications in Computer Science Engineering, and Post-graduate qualifications in Information Technology, Environmental & Energy Studies, and Artificial Intelligence.

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