

## **Willingness of Spanish Wineries to Implement Renewable Energies in Their Vineyards and Wineries, as Well as the Limitations They Perceive for Their Implementation**

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**Abstract :** Climate change, depletion of non-renewable resources in the current energies, pollution from them, the greater ecological awareness of the population, are factors that suggest the change of energy sources in business. The agri-food industry is a growth sector, concerned about product innovation, process and with a clear awareness of what climate change may mean for it. This sector is supposed to have a high receptivity to the implementation of clean energy, as this favors not only the environment but also the essence of its business. This work, through surveys, aims to know the willingness of Spanish wineries to implement renewable energies in their vineyards, as well as the limitations they perceive for their implementation. This questionnaire allows the characterization of the sector in terms of its geographical typologies, their activity levels, their perception of environmental issues, the degree of implementation of measures to mitigate climate change and improve energy efficiency, and its uses and energy consumption. The analysis of data proves that the penetration of renewable energies is still at low levels, being the most used energies, solar thermal, photovoltaic and biomass. The initial investment seems to be at the origin of the lack of implantation of this type of energy in the wineries, and not so much the costs of operations and maintenance. The environmental management of the wineries is still at an embryonic stage within the company's organization chart, because these services are either outsourced or, if technicians are available, they are not exclusively dedicated to these tasks. However, there is a strong environmental awareness, as evidenced by the number of climate change mitigation and energy efficiency measures already adopted. The gap between high awareness and low achievement is probably due to the lack of knowledge about how to do it or the perception of a high cost.

**Keywords :** survey, renewable energy, winery, Spanish case

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