

Energy efficiency's key role in explaining the performance of energy consumption in Andalusia (Spain)

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Abstract

The EU commitment to improve energy efficiency is conditioned not only by the countries but also by the role that the European regions adopt when they develop their own energy policies. Concretely, due to the economic and energy characteristics of the Andalusia, this region conditions the achievement of Spain's goals in terms of energy efficiency. This paper aims to highlight the key role played by energy efficiency, explaining the energy consumption behaviour in Andalusia and in comparison with the Spanish average for the period 2000–2015. The paper analyses this topic through the Logarithmic Mean Divisia Index (LMDI) decomposition method and with a decoupling index analysis. The results show although the energy efficiency measures have been globally effective in terms of reducing the energy intensity between 2000 and 2015, Andalusia still has a higher energy intensity than the Spanish average and more efforts should be made in order to reduce it and to contribute to Spain's energy consumption targets. The main efforts should be focused on the industry and primary sectors. The energy policy recommendation are two. First, to bring the economic situation of Andalusia closer to the Spanish average and therefore to reduce energy intensity and second, to decouple the energy consumption from economic growth, thus contributing to a reduction in CO₂ emissions.

Author keywords

Energy decoupling
Energy efficiency
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European decarbonisation
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LMDI