Key drivers of the textile and clothing industry decarbonisation within the EU-27

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Abstract
The European Union has identified the Textile and Clothing industry as one of the essential objectives towards carbon neutrality in 2050 in line with the "European Green Deal". There are no previous research papers focused on analysing the drivers and inhibitors of the past greenhouse gas emission changes of the textile and clothing industry in Europe. This paper aims to analyse the determinants of the changes in these emissions, and the disassociation level between emissions and economic growth, throughout the 27 Member States of the European Union, from 2008 to 2018. A Logarithmic Mean Divisia Index that explains the key drivers of the changes in greenhouse gas emissions of European Union Textile and Cloth industry and a Decoupling Index have been applied. The results generally conclude that the intensity and carbonisation effects are key factors that contribute to reducing greenhouse gas emissions. The lower relative weight of the textile and clothing industry throughout the EU-27 was noteworthy, and favours lower emissions, partially counteracted by the activity effect. Also, most Member States have been decoupling the industry's emissions from economic growth. Our policy recommendation shows that if further reductions in greenhouse gas emissions are to be achieved, energy efficiency improvements and cleaner use of energy sources would offset the potential increase in emissions of this industry as a result of a relative increase in its gross value added. 

Author keywords
Decomposition analysis; Decoupling analysis and energy policy; European union textile and clothing industry; Greenhouse gas emissions; Log median decomposition index