

Theoretical research on circular economy and sustainability trade-offs and synergies

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Abstract

Circular economy (CE) and sustainability are interrelated, without being exchangeable. While sustainability tries to reconcile the management of productive resources with their increasing consumption, CE aims to make the productive process more efficient, reducing, reusing and recycling the results of the productive process as much as possible. The aim of this paper is to ascertain the systemic structure of interactions between sustainability and CE through the analysis of the existing literature from 2004 to 2021. For this purpose, a computational literature review and a content analysis of the main contributions of CE and sustainability, within the framework of the Sustainable Development Goals (SDGs), were conducted. The results show that there is a positive impact of the synergy between CE strategies and certain SDGs. Specifically, the circular strategies that generate the greatest synergies have to do with preserving materials through recycling, downcycling, and the measurement of indicators or reference scenarios. This is what has led to the inclusion of these concepts in the formulation of policies and strategies, as their multidisciplinary nature allows them to have an impact on areas such as agriculture or innovation, which currently lack specific measures. Therefore, the knowledge derived from this study will contribute favorably to future decisions and actions to be considered, as there is still the potential to legislate in favor of an even more sustainable framework. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.

Author keywords

Circular economy strategies; Content analysis; Matrix of relationships; Priority sectors; Sustainable development goals