

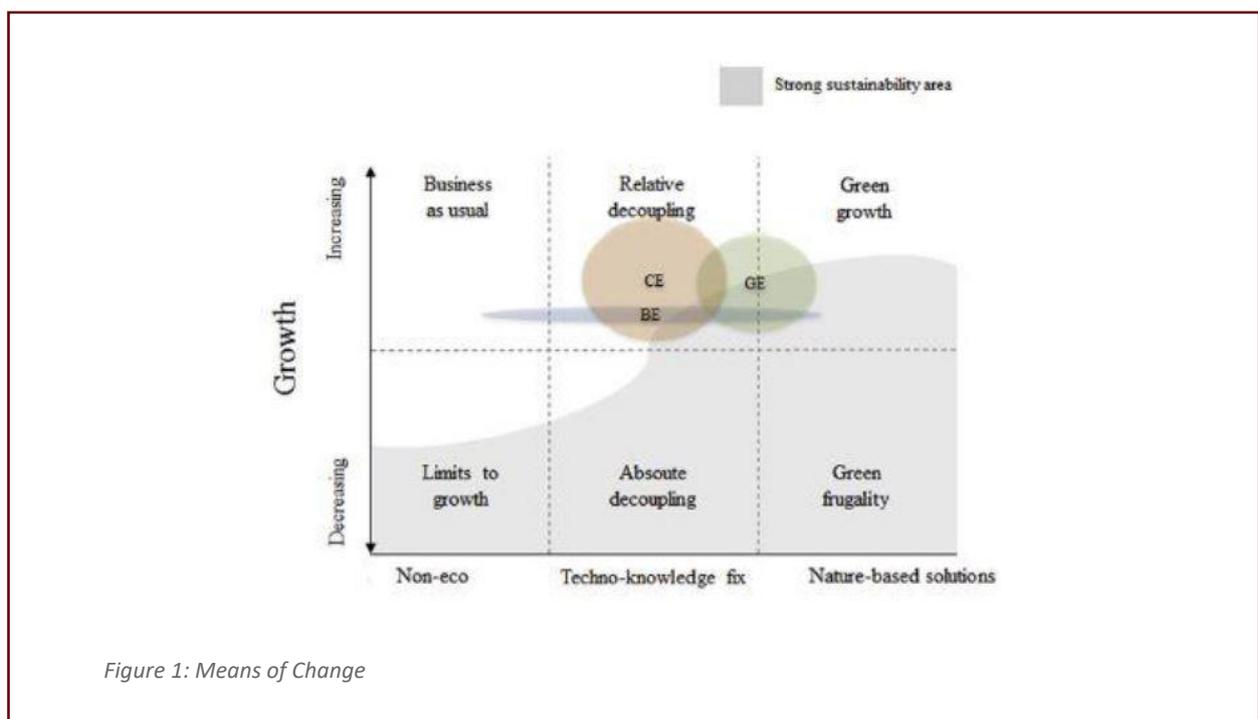
GREEN BPM

Defining the Green Aspects: The Green Economy

From the public and private spheres, incentives are generated to initiate a thought process revolving about sustainable solutions and practices. As mentioned in the introduction, this urge is not only due to the establishment of regulations but also because it is an opportunity to generate innovations and to focus on new markets that offer as results good profits and a reputation for organisations that is associated to “green” aspects. While the terms “sustainability”, “green business”, “circular economy”, among others, have been gaining attention in industrial, political and academic fields, the differences and similarities between these concepts continue to be ambiguous. It is therefore necessary to address these gaps, and to provide conceptual clarity by distinguishing them in order to define a focus for this project and establish the requirements for the analysis, development and implementation and their benefits in terms of economic aspects.

To address this article, the scientific paper “Green, circular, bio-economy: a comparative analysis of sustainability avenues” was reviewed. The study was based on the bibliometric analysis of two thousand scientific articles that included the terms Green Economy (GE), Circular Economy (CE) and Bioeconomy (BE) using machine learning.

These terms were chosen by the researchers since they present a common purpose: to find an intersection between economic, environmental and social goals, and to be the most used current terms within the academic, political and business environment for the formulation of sustainable strategies. These concepts started to be investigated for no more than two decades ago, so the terms remain ambiguous. Based on the key words and the topics obtained through the bibliometric analysis, the authors D. D'Amato, N. Droste, B. Allen, M. Kettunen, K. Lahtinen, J. Korhonen, P. Leskinen, B.D. Matthies, A. Toppinen (2017, p. 723) determined a chart-position for every concept: CE, GE and BE based on a conceptual framework adapted from Franceschini and Pansera (2015), depicted in which the three definitions have their y-axis based on their economic growth, and the x-axis shows how they carry out sustainability:



In the final discussion, the authors affirm that “CE topics generally revolve around decoupling driven by technological innovation, specifically recycling and eco-efficiency” (D’Amato et al 2017, p. 721). Reinforcing what was mentioned in the introduction, CE’s focus is on “redesigning the life cycle of the ‘product’, with the aim to have minimal input and minimal production of system ‘waste’” (D’Amato et al. (2017, p. 717)). Finally, within the scope of this topic, the authors D’Amato et al (2017, p. 724) refer to the concept of the circular economy also emphasising the use of techniques that contribute to the efficiency of logistics and the production chain. Subsequently, the authors D’Amato et al. (2017, p. 724) write about the topic of bioeconomy, affirming that BE advocates for industrial resources that come from renewable biological sources. Part of BE’s literature focuses on biomaterials and bioenergy. The authors continue, BE’s literature also includes topics such as application of biotechnology to medicine and to the replacement or decrease of the demand for biomass, where the residual volumes of biomass are recovered to produce something new, which is related to efficiency and resource-saving.

Finally, the researchers reflect on the concept of green economy, affirming that “GE literature hosts ideas from both BE and CE, such as biomass and renewables and recycling, re-use and reduction in products life cycle” (D’Amato et al. (2017, p.725)) In this context, it is important to add that the authors (D’Amato et al. (2017, p.724)) also talk about the publication platforms regarding the three concepts:

- CE is generally published in magazines oriented towards "industrial ecology".
- GE in environmental or ecological economics magazines.
- And BE in technical and sector magazines

The authors mentioned that the circular economy and the bioeconomy focus on resources, while the Green Economy recognises the fundamental role of all ecological processes. The researchers found that, regarding environmental sustainability, the Green Economy acts as an “umbrella” definition, including ideas of the circular economy and the bioeconomy. Finally, as a conclusion of the research, the authors highlighted that “GE literature hosts ideas from both BE and GE, such as biomass and renewables and recycling, re-use and reduction in products life cycle (...). GE is thus particularly characterized by the idea of nature-based solution in local contexts and takes explicitly into account ecological and social dimension” (D’Amato et al. (2017, p. 725).

Literature

D. D’Amato, N. Droste, B. Allen, M. Kettunen, K. Lahtinen, J. Korhonen, P. Leskinen, B.D. Matthies, A. Toppinen (2017). Green, circular, bio economy: A comparative analysis of sustainability avenues. *Journal of Cleaner Production* 168 (2017), p. 716-734

Franceschini, S., Pansera, M., (2015). Beyond unsustainable eco-innovation: the role of narratives in the evolution of the lighting sector. *Technological Forecasting & Social Change* 92 (2015), p. 69-83