

Circular Economy in Low-Carbon Transition

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The circular economy represents a fundamental pillar for modern business models and sustainable development targets: the mandatory claim “reduce, reuse, recycle” is the answer to the global criticalities of natural resources depletion and waste increase [1,2]. At the same time, energy production and consumption play key roles in the face of challenges of industrialization and rapid population growth: with the depletion of traditional fossil fuels, renewable and low-carbon energy sources have attracted more and more attention for their advantages such as high renewability, great development potential, and possible emissions-mitigation [3,4]. To implement the circular economy in the low-carbon transition, new supply chain opportunities can be explored; at the same time, new dilemmas must be carefully solved through the life-cycle approach, to avoid the environmental burdens shifting [5,6]. The international community—including scientists, policymakers, industries, and markets—must develop new tools and competencies to support interdisciplinary innovation through the adoption of a comprehensive perspective, and to generate sustainable values from green low-carbon behavior [7,8].

This book contains the successful invited submissions [9–13] to the Special Issue of *Energies* (ISSN 1996-1073) on the subject area of “Circular Economy in Low-Carbon Transition” in the section “Energy Economics and Policy”. This Special Issue contributes to outline a roadmap of circular economy in the low-carbon transition, through the exchange of experiences in different contexts with both environmental and socio-economic points of view.

We sincerely thank the editorial staff and reviewers for their efforts and help to collect, select, and review the papers. We believe that the published articles will inspire both scientists and practitioners to explore new directions to the circular economy in new carbon transition.

Qualitative and quantitative measurements in resources/energy utilization, multi-criteria impact assessment in energy systems, and closing the loop initiatives enrich the international debate relating the topic. New research trends underlined by this Special Issue encourage continued discussion about the role of energy policies and technologies to achieve the SDGs and the climate actions using a life-cycle approach. The common objective must be the overall reduction in impacts and the formulation of substantially sustainable solutions, rather than downloading the problems along the supply chain or postponing the damages in the next decades.

Author Contributions: Conceptualization, A.M. and J.R.; writing—original draft preparation, A.M.; writing—review and editing, J.R. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.



Citation: Mazzi, A.; Ren, J. Circular Economy in Low-Carbon Transition. *Energies* **2021**, *14*, 8061. <https://doi.org/10.3390/en14238061>

Received: 24 November 2021

Accepted: 30 November 2021

Published: 2 December 2021

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Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

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