

BOOK REVIEW

Circular Economy and Sustainability: Management and Policy: Volume 1. ISBN 987-0-12-819817-9, 2022 and Circular Economy and Sustainability: Environmental Engineering. Volume 2, ISBN 978-0-12-821664-2022. 2022

This is a brief review of this two-volume set of books on a theme of great interest in all disciplines to professionals, academia as well as governments, and the general public. There is explosive growth in the consumption and depletion of finite resources along with troubling rates of loss of biodiversity, greenhouse gas emissions, and water stress which can lead to food insecurity as well. The editors of these two timely tomes have carefully assembled experts in numerous key areas of relevance to engineering and management of circular economy (CE) concepts to provide their latest thoughts on how to effectively introduce CE principles in practice. CE needs to be a vehicle for sustainability which will lead to environmental protection, economic growth, and social equity, as the editors state in the Preface.

It is not possible to provide a critical review of all content of these two volumes. The overall quality of individual chapters- 34 chapters in volume 1 and 29 chapters in volume 2- is high. The editors have succeeded in bringing together engineering and management/economics concepts to examine circular business models through reducing, reusing, recycling, redesigning, and minimizing waste of material as well as energy resources. Nearly 200 authors have contributed to these books; most are from Europe. Although over 115 definitions have emerged in the literature on CE, the basic goal is to shift consumer behaviour from a linear to a circular state. This is more easily said than done.

In Chapter 1, the authors have discussed the need to analyze data for CE at micro, meso, and macro levels. This is a highly recommended read for anyone interested in CE as it classifies CE literature logically and provides useful results and discussion based on the extensive literature.

Volume 1 contains authoritative articles on a wide variety of themes that interest this reviewer. Here I will name a few: systems thinking, circular bioeconomy, use of life cycle analysis, the role of eco-design, the importance of energy recovery, reduction of waste etc. readers interested in CE will find multiple chapters of interest in this volume.

Volume 2 is much more focused on environmental engineering applications of CE. Chapter 1 of this volume is of broad interest as it deals with the CE approach in the water and

wastewater sector. The following chapters deal with themes such as: diverse wastewater systems, use of sewage reuse in agriculture, wastewater management in the oil and gas industry, sludge management, manure treatment, waste to energy for CE, bioleaching of minerals, CE in the wood processing industry, ecotoxicity, wetland conservation, food processing waste, water and food security using renewable energy, etc. this volume also contains some case studies from a number of countries. Of course, there are additional themes that could be covered, but clearly, there is a page limitation which does not permit the inclusion of additional topics.

Overall, these two books are a valuable addition to any library servicing academics as well as business and industry professionals. It does not deal with research themes; it deals with applications of CE concepts and usefully integrates engineering concepts with management and public policy aspects. It is also a valuable supplemental reading resource for teaching purposes as well. The editors of these volumes are congratulated for their excellent effort and the publisher for bringing out an attractive product.

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