LCA of Solid Waste Management Systems

The chapter explores the application of LCA to solid waste management systems through the review of published studies on the subject. The environmental implications of choices involved in the modelling setup of waste management systems are increasingly in the spotlight, due to public health concerns and new legislation addressing the impacts from managing our waste. The application of LCA to solid waste management systems, sometimes called “waste LCA”, is distinctive in that system boundaries are rigorously defined to exclude all life cycle stages except from the end-of-life. Moreover, specific methodological challenges arise when investigating waste systems, such as the allocation of impacts and the consideration of long-term emissions. The complexity of waste LCAs is mainly derived from the variability of the object under study (waste) which is made of different materials that may require different treatments. This chapter attempts to address these challenges by identifying common misconceptions and by providing methodological guidance for alleviating the associated uncertainty. Readers are also provided with the list of studies reviewed and key sources for reference to implement LCA on solid waste systems.

General information
Publication status: Published
Organisations: Department of Management Engineering, Quantitative Sustainability Assessment, Department of Environmental Engineering, Universidade Federal do Rio de Janeiro, Copenhagen Resource Institute
Pages: 887-926
Publication date: 2018

Host publication information
Title of host publication: Life Cycle Assessment: Life Cycle Assessment Theory and Practice
Publisher: Springer
DOIs: 10.1007/978-3-319-56475-3_35
Source: FindIt
Source ID: 2373522906
Research output: Chapter in Book/Report/Conference proceeding → Book chapter – Annual report year: 2017 → Education → peer-review