

Life cycle assessment in Mexico: overview of development and implementation

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Abstract

Purpose Since 1999, there have been advancements in the use of life cycle assessment (LCA) in Mexico. Many of the efforts, such as training, research, and application of life cycle thinking for decision-making, have been carried out across the government, industrial, and academic sectors, but mostly as independent initiatives, without communication or cooperation between the LCA practitioners. This independent approach to LCA has resulted in the perception that LCA advances in Mexico are minimal. However, there have been advancements and notable achievements. This paper presents a review of the history of the application of LCA in Mexico over the past 15 years.

Methods Information was obtained from bibliographic research (i.e., scientific journals, conferences proceedings, thesis, national reports), informal interviews, and the experiences of the authors.

Results and discussion Results show that up till 2010, the research and academic communities were leading LCA efforts with a focus on waste management topics. After 2010, there was a shift to study energy systems, carbon and water footprint analysis, and the construction sector. In the private sector, early LCA interest came from companies that were heavily invested in international markets and susceptible to growing international and national support for environmental regulation, such as CEMEX, the mining sector, the footwear sector, Mexican Petroleum (PEMEX), and Federal Electricity Commission. Moreover the government sector has attracted international recognition for its National Strategy for Sustainable Consumption and Production, which is based on an LCA approach.

Conclusions Accordingly, LCA has thrived and continues to grow in Mexico. However, to improve future LCA studies, policies, and analysis, a national life cycle inventory (LCI) database needs to be developed and maintained, and care will need to be taken to ensure that there is proper guidance and training to safeguard the quality of LCA methods and results,

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1 Introduction

Life cycle assessment (LCA) is thriving in Mexico. Since 1999, there have been advancements in its use. Many of the efforts, such as training, research, and application of life cycle thinking for decision-making, have been carried out across the government, industrial, and academic sectors, but mostly as independent initiatives, without communication or cooperation between the LCA practitioners. This independent