

BUILDING THE FOUNDATION FOR LIFE CYCLE ASSESSMENT IN SOUTH AFRICA: GUIDELINES AND PRODUCT CATEGORIES RULES TO ENABLE AND EXPEDITE THE APPLICATION OF LCA UNDER THE EPR REGULATIONS IN SOUTH AFRICA

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KEY FINDINGS

The CSIR's LCA Guideline Series has been developed to provide clear guidance and recommendations for conducting LCA studies in South Africa, which respond to the requirements of the EPR Regulations (DFFE, 2021) in a harmonised and cost-effective way.

INTRODUCTION

Globally, there is a growing intent to regulate environmental claims made in relation to products, and to harmonise reporting on 'Green' products to inform policy, producers and consumers. A number of South Africa's key trade partners (particularly the EU and USA) are introducing strict requirements for products entering their markets to report on their Product Environmental Footprint (PEF), or to make Environmental Product Declarations (EPDs). At the same time, South Africa has recently published Extended Producer Responsibility (EPR) Regulations, which, among other things, require producers (defined to include brand owners and importers) in certain industries to conduct LCA studies for their products.

South African producers will therefore increasingly be required to conduct LCAs on their products; in order to gain access to international markets, improve their competitiveness in these markets, and to meet regulatory requirements in SA. However, there is currently a shortage of the required LCA capacity and data in SA; and a lack of guidance on how LCAs should be conducted in order to meet these various requirements.

In this project, funded by the Department of Science and Innovation through the Waste RDI Roadmap, a series of Guidelines has been developed; aimed at providing guidance to South African producers on how to conduct LCA studies in accordance with both the EPR Regulations and export market requirements.



The purpose of the LCA Guideline series is three-fold:

- to provide clear guidance and recommendations on methodological choices when conducting LCA studies in response to the requirements of Regulation 5, sub-regulations (1)(k) and (1)(l) of the EPR Regulations (DFFE, 2021);
- to provide guidance for producers to comply with PEF/EPD requirements for export markets (e.g. the EU and US);
- to harmonise, wherever possible, among these different standards and requirements, so as to avoid duplication and capitalize on synergies.

HOW TO USE THE GUIDELINES

The CSIR's LCA Guideline Series comprises of four separate guidelines, as follows:



- **Guideline 1: Best Practice Guideline for conducting Life Cycle Assessment (LCA) studies in South Africa** is the main guideline, providing information on how to conduct an LCA study in the SA context, with specific reference to the EPR Regulations. It is complemented by three additional guidelines, which provide supporting information.
- **Guideline 2: Relevant standards for LCA studies**, provides a full list of possible applicable standards that could be applied when conducting LCA studies. The relevant standard to be followed will depend on the goal and scope of the study in each case.
- **Guideline 3: Summary of available PCRs and PEFCRs** provides a (non-exhaustive) list of Product Category Rules (PCRs) and Product Environmental Footprint Category Rules (PEFCRs) which may be relevant to the products identified under the EPR Notices.
- **Guideline 4: Templates for LCA Reports and for Critical Reviews of LCA Studies** provides suggested templates for LCA study reports; and for peer reviews of LCA studies, where required (as per the recommendations in Guideline 1).

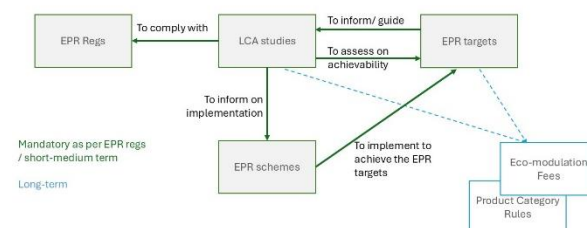
A PRAGMATIC AND COST-EFFECTIVE APPROACH TO OPERATIONALISE THE LCA REQUIREMENTS

Given the large number of products identified in the EPR Regulations, and the costly, time-consuming nature of LCA studies; it would be impractical for each and every producer to conduct a separate LCA study on each identified product. We propose a pragmatic approach to enable compliance with the LCA requirement in the most efficient and cost-effective way. The approach is based on three principles:

1. **Scaling** – to enable variations in size / mass of a product to be assessed in a single LCA study.
2. **Scenario analysis** – to enable variations in product design (e.g. different colours, materials or additives) to be assessed in a single LCA study.
3. **Collective approach** – to enable different producers of a similar product to collectively commission a single LCA study, provided that variations in size and design are accounted for through scaling and scenario analysis.

USING THE RESULTS OF LCA STUDIES IN THE CONTEXT OF THE EPR REGULATIONS

The LCA requirement in the EPR Regulations is intended to drive improved product design for circularity. The EPR targets should also be read in the context of enhancing circularity, and should be used to drive rethinking and redesign, so as to simultaneously meet the EPR targets and comply with the LCA requirement. The LCA requirement should therefore be considered in combination with the EPR targets, as well as with other elements in the EPR Regulations, such as the potential formulation of eco-modulated EPR fees; as these elements will all inform each other.



In the long term, LCA can play a broader role within the context of EPR and the circular economy; e.g. in helping to inform the setting of eco-modulated EPR fees. Product Category Rules (PCRs) would help to provide further guidance; while there a need for SA-relevant data in certain sectors.

Acknowledgements: The authors acknowledge the funding received from the Department of Science and Innovation under the Waste RDI Roadmap.

Disclaimer: The content and views included in this Briefing Note are based on independent analysis and do not necessarily reflect the position of the Department of Science and Innovation or the CSIR.

This Briefing Note is produced as part of the Waste RDI Roadmap Briefing Note Series, an initiative of the Department of Science and Innovation managed by the CSIR. The Note stems from the findings of a grant project funded under the Roadmap, entitled "Guidelines and Product Category Rules to enable and expedite the application of LCA under the EPR Regulation in SA".