

IS IT VALID TO USE INTERNATIONAL DATA IN NEW ZEALAND LCA COMPARISONS?

Barbara Nebel

PhD, CEnvP

Group Leader Sustainability Frameworks

Scion, Private Bag 3020, Roturua, New Zealand

Phone +64 7 343 5637, email: Barbara.nebel@scionresearch.com

Environmental life cycle assessment (LCA) is a suitable tool for assessing the environmental performance of a building, a building construction or a building material by taking a systems perspective over the whole life cycle. Accurate, consistent and relevant data is a key requirement for meaningful LCA studies which can be used in decision making processes of organisations and for policy making. The process of collecting and providing such data is time consuming.

In New Zealand and internationally, a number of databases have been developed for the use in LCA studies of buildings. In this study a LCA of the same house has been conducted based on different life cycle inventory databases. These include different European databases, North American data as well as New Zealand specific data, collated by Andrew Alcorn at Victoria University.

The goal of the study was to determine how relevant the influence of using international data is for comparisons is. This is demonstrated by using different databases for the assessment of different design alternatives of a residential building in New Zealand. This includes the ratio of the potential environmental impacts from materials vs. operating energy.

The paper focuses on two research questions based on the findings of this analysis. Firstly, the need for New Zealand specific data is discussed with regard to the use of LCA studies in policy making in a regional context and also for the improvement of building materials in New Zealand from an environmental point of view. Secondly, the validity of undertaking LCA studies based on consistent international datasets is discussed from a research perspective.