

380 Closer than ever to seamless exchange of data and models between LCA software tools: lessons learned and improvement opportunities from the EF Remodeling project M. Vieira, K.

Cenian, PRe Sustainability; A. Ciroth, GreenDelta; M. Dupriez, RDC Environment; A. Genest, ifu Hamburg; S. Schulz, thinkstep AG / GaBi BU; M. Wolf, maki Consulting GmbH; E. Mieras, PRe Sustainability. Similar data and methods are implemented in various LCA software (SW) tools, however there are cases of the same dataset generating different results in different tools. Also, users tend to use one SW tool and when they want to move their data or model to another SW, they face many obstacles. In the context of the Environmental Footprint (EF) pilot phase, the European Commission requested the development of 63 representative products/organisations (RPs/ROs), which: are consistent with the requirements of the final product environmental footprint category rules (PEFCRs) and organization environmental footprint sector rules (OEFSRs), use the prescribed EF-compliant secondary datasets, and can be made available for free to any user applying a PEFCR/OEFSR and are easily usable in the major existing LCA SW tools. An implicit prerequisite is that SW tools calculate equal results for the same RPs/ROs. The remodeling project included five software tools: GaBi, openLCA, RangelCA, SimaPro, and Umberto. 59 aggregated datasets, one for each representative product, developed in the ILCD format, were tested in all five SW tools. Already for a rather simple task, i.e. to calculate LCIA results for one aggregated dataset, a few iterations were needed – to align on flow mappings, LCIA method implementation, etc. – but ultimately all five SW tools calculated LCIA results with a difference lower than 1%. Because the ILCD format is limited to single process datasets, we developed a life cycle model (eILCD) format aimed at facilitating model exchange among the tools. Seven models, developed in four SW tools, were tested by all partners. Some models could be successfully exchanged between SWs and a few provided equal LCIA results, but not all of them. This presentation will cover: the problems faced when importing the models and investigating the sources of differences in the results in the different SW tools, as well as suggestions on how to address the import problems and results differences. This work is the basis to enable the reduction of software-system related issues. We believe this is a crucial step towards the exchange of data and models across SW tools and the comparability of results. We are definitely closer to that than we have ever been before... so we can't stop now. We need to capitalize on the work done and on lessons learned during the Remodeling project and improve what we have so far to ultimately make data and model exchange truly possible for all users.