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Tools to support environmental performance in small and medium-sized enterprises

Small and medium-sized enterprises (SMEs) and start-up companies have a significant role in economy and job creation. As a whole, they are also a remarkable source of environmental impacts. However, SMEs often lack skills, time and money to conduct a full life cycle analysis (LCA) or product environmental footprint analysis (PEF) for their products or services.

The aim of this study is to promote environmental awareness and life cycle thinking in Finnish SMEs and to facilitate their actions to reduce emissions in practice. Two concepts has been developed, namely streamlined LCA-clinics (Figure 1) and Environmental handprints in SMEs (Figure 2). The concepts have been tested in Finnish SMEs by conducting over 40 LCA clinics (2015–2019) and piloting the environmental handprints in SMEs concept in the region of North Karelia (2019–2020).

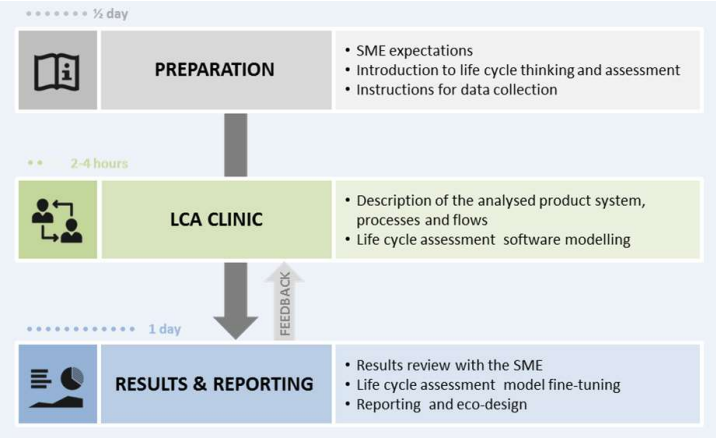

Fig. 1. A flow-chart of an LCA clinic (Niemistö et al. 2019).

- The idea of **LCA clinics** is to conduct a streamlined LCA time and resource efficiently, but still accurately enough to identify the main climate change impacts and their hotspots in companies' value chains.
- Primary data for the streamlined LCA is provided by the SMEs through data sheets developed for this purpose. Secondary data is sourced from the life cycle inventory databases. Analysis is performed with the OpenLCA software. The inventory data are complemented with specific emission factors of Finnish electricity and heat production. For better understanding of the level of impacts, results are normalized to a distance driven by a passenger car, as well as to the annual footprint of an average Finn.
- A short report including results of the assessment together with recommendations on how to decrease the climate change impacts is provided to the companies.
- Companies' feedback indicates that LCA clinics are useful and increase their lifecycle thinking and environmental awareness. However, the increased awareness typically has not lead to immediate actions mainly due the financial reasons.
- We consider that more development is still needed before LCA clinics can be used to support environmentally conscious decision-making. For instance, databases for various materials and processes should be made freely available as they are the basis of a streamlined LCA and there are not comprehensive databases available for free.

- **Environmental handprint** describes the environmentally positive factors by which e.g. resource efficiency is improved and environmental burden is reduced while producing a product, providing a service or running business more competitively than before. With this information customers can affect their *environmental footprint*, and thus, the environmental handprint of an enterprise should be publicly known.
- **Environmental handprints in SMEs** is a three-stage scheme for promotion of environmental work especially in SMEs. The concept supports enterprises to decrease their environmental impacts and to identify positive climate actions, so called environmental handprints.

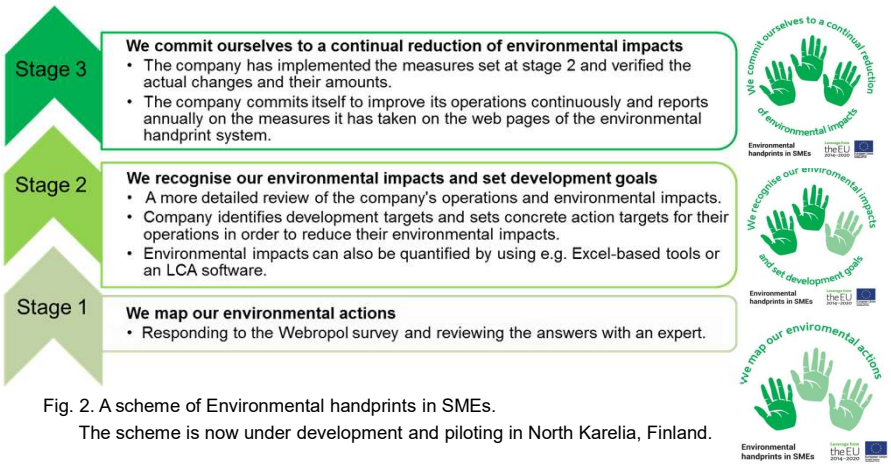

Fig. 2. A scheme of Environmental handprints in SMEs.
The scheme is now under development and piloting in North Karelia, Finland.

References

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