

Bio-based plastics

Case study

Elastopoli Oy (II)



Elastopoli Oy is Finnish company located in Sastamala, which has been established in 2002. Elastopoli Oy develops and manufactures compounds out of natural fibers and minerals. The polymer matrices used include e.g. polypropylene, polystyrene and biodegradable polymers. This company also provides testing services and Technical Expertise Management to their customers for an effective use of compounding materials. Moreover, Elastopoli Oy is actively involved in research projects, including EU-funded ones. Elastopoli Oy, has applied the bio-based plastics LCA to go tool in order to analyze the environmental impact profile of a multilayered PLA bag for sliced meat which is under development as a demonstrator in the EU-funded project NANOBARRIER.

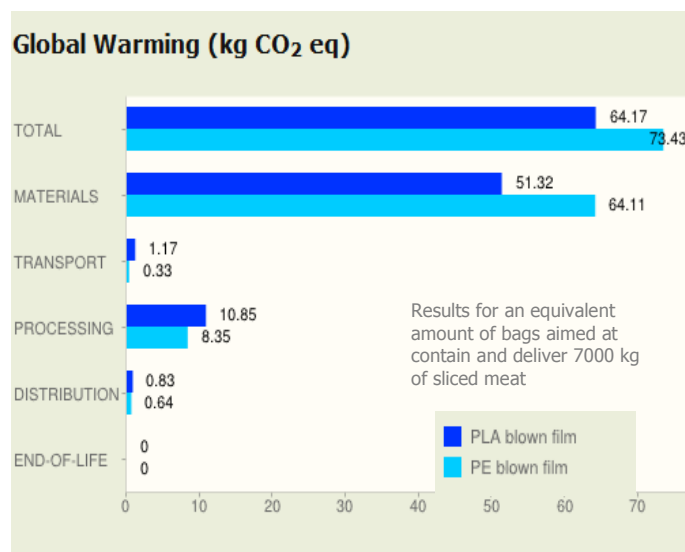


Figure 1. Global Warming results for blown film bags made of PLA and PE

Elastopoli Oy decided to join the training program of LCA to go, with the support of ITENE.

The main driver to join this training was their constant cooperation with their customers, mainly packaging manufacturers, where carbon footprint is an increasing concern

Several ecodesign strategies were proposed by the company. ITENE assisted Elastopoli Oy during the decision process to find the best ecodesign strategy.

Finally, it was decided to focus on a material change from the current PE used in the multilayered film to PLA. Therefore, the ecodesign with the bio-based plastic LCA to go tool was focused to estimate the film weight considering the same thickness and the density of the material, since the PLA was not tested at the time of development of this analysis.

The ecodesigned demonstrator, considering the material change from PE to PLA in the multilayered bag, achieved a carbon footprint reduction of 12.6%, as it is shown in Figure 1.

Markku Nikkilä, CEO at Elastopoli Oy, appreciated the results of LCA to go analysis, as a guide to validate their strategies for environmental impact reduction.