



Smart Textiles Case study Lizanne Dirkx



Lizanne Dirkx is a designer, researcher and workshop facilitator specialised in sustainability, social design, materials & crafts and the circular economy. She works with schools, libraries, cultural institutes, museums, institutes for sustainability, companies, and communities as an independent entrepreneur and runs her own company (<http://www.lizannedirkx.com>).

Within the context of the research project [Resources & Resourcefulness](#) about designing with waste materials, Lizanne developed a [framework with tools](#) to analyze design projects (Fig. 1). Referring to this project Lizanne and her colleague Pietro Galgani were interested in the LCA to go smart textiles tool, which which was pointed out to them by the previous training company Material Sense.



Fig.1 Icons from the tool - developed by Dirkx - which highlight five key considerations

The two trainings with Lizanne Dirkx were given by Natascha van der Velden from Delft University of Technology (TUD) at Thursday afternoon January 16 (first acquaintance and introduction at TUD) and Tuesday morning March 11 (training per skype).

With the tool Lizanne made a comparison between two design alternatives for an armchair (armchair 'normaal' = cotton-polyester dyed and armchair 'recycled' = recycled fabric screen printed acrylic (waterbased)). Some results of the assessment are presented in the images below.

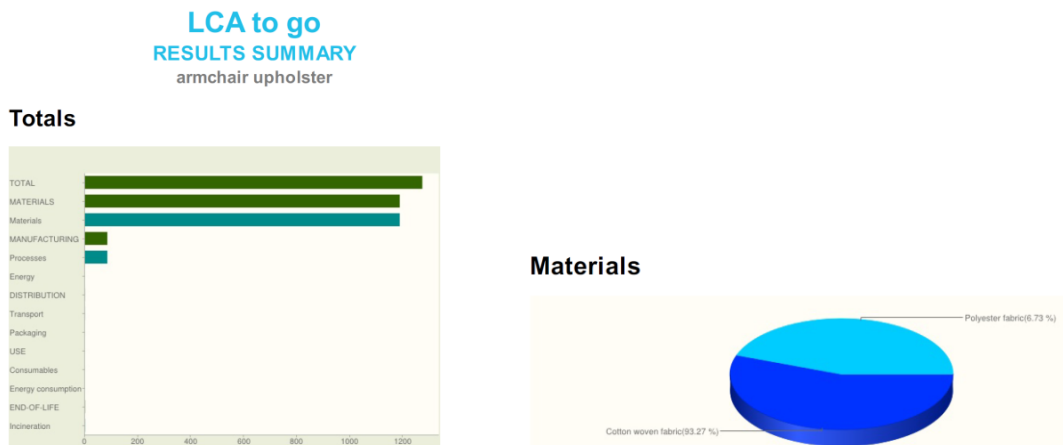


Fig. 2 Results of the LCA of the base product - Totals and Materials

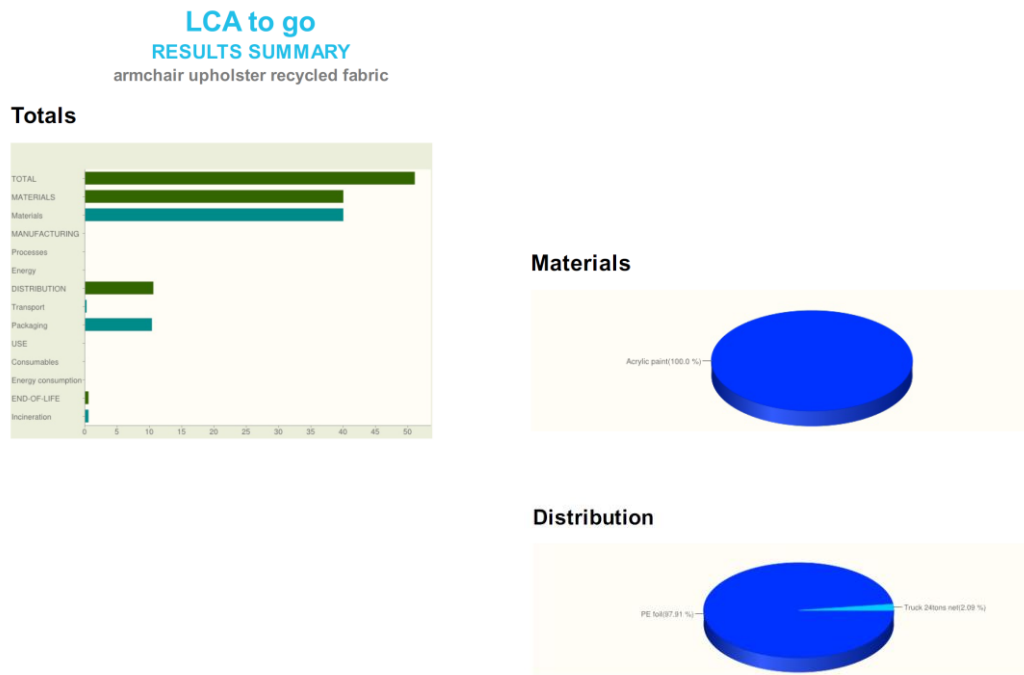


Fig. 3 Results of the LCA of the new product - Totals, Materials and Distribution

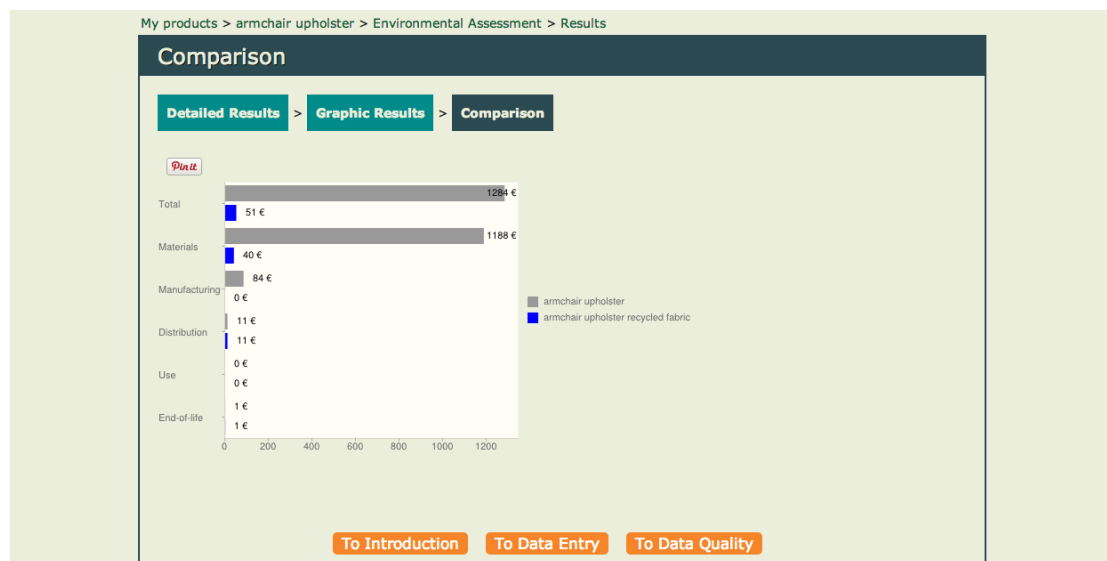


Fig. 4 Screenshot of the results of the comparison of the two design alternatives

Besides some issues related to the functioning of the tool (error reports often appeared during usage, but the software developer Simpple helped us with solving these problems) Lizanne Dirx was positive about the possibilities the LCA to go smart textiles tool offers. It allowed her to make a relatively easy and quick assessment and comparison in terms of environmental burden in the early design stage.