



## Printed Circuit Board Case study



The company Kompania Elektroniczna is middle sized company and operates mainly on the Polish market. It manufactures all kinds of Printed Circuit Boards for a variety of uses. The Kompania Elektroniczna designed and offers also a series of Universal PCBs. The universal boards are a professional line of circuits used to build prototypes and to perform in short production series, where low costs are paramount.

Ms Magdalena Sielczak from company Kompania Elektroniczna during a site visit in the company by project leader ITR taken part in the mentoring concerning Life Cycle Assessment of products for PCB sector and checked the practical possibility of the tool offering by the “LCA to go” project. The “LCA to go” tool was used inter alia for the assessment of the PCB showed in Fig.1. It was chosen the standard version of the tool for analyse, because not all input data for the sophisticated version of PCB tool was available at that moment. The benefits of using the sophisticated version of “LCA to go “ tool for PCB sector for printed circuits board manufacturer were discussed also.



Fig.1. The product PCB\_1 used for assessment.

Ms Sielczak said: “The tool improved understanding of the PCBs life cycle. The navigation of the tool is practical and does not consume too much time. The results from the tool may be useful for our business in the future for new products assessment. Moreover the results like water and energy consumption could be used to improve the environmental efficiency of our company. We will be inform also our customers about possibilities of the environmental reports offering by the “LCA to go “ tool.



**TOTAL RESULTS on KEPIs DETAILED RESULTS**

Indicator	Units	For 1 PCB	For 50 PCBs
Water consumption	m <sup>3</sup>	0.0581	2.91
Energy consumption Ec (Ec = Ecm+Ecp)	kWh	12.0774	603.87
Ecm - Energy consumed during materials production for PCB	kWh	3.8334	191.67
Ecp - Energy consumed during production processes of the PCB	kWh	8.2440	412.20
Total sludge and waste emitted	kg	0.2190	10.95
Carbon footprint - CF	kg CO <sub>2</sub> eq	8.3045	415.22
CF of materials	kg CO <sub>2</sub> eq	2.6118	130.59
CF of production processes	kg CO <sub>2</sub> eq	5.6168	280.84
CF of gas emissions to air	kg CO <sub>2</sub> eq	0.0315	1.58
CF of transport	kg CO <sub>2</sub> eq	0.0444	2.22

**ROHS compliance information**

The product marked PCB\_1 meets the EU-directive 2011/65/EU (RoHS) requirements.

Comments

**CARBON FOOTPRINT (CF)**

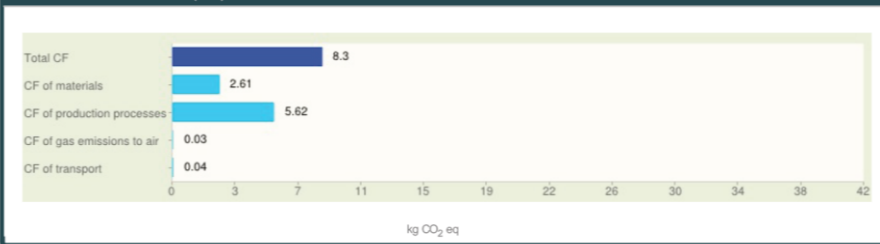


Fig.2. Examples of results from case study for the PCB\_1.