

Table 1: Structure of questions for assessing current product sustainability during **Step 5** of the SLCA process (**Sustainability assessment**)

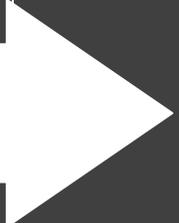
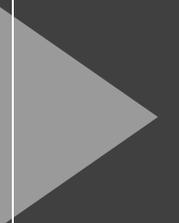
Life cycle stages:	Raw materials	Production	Packaging & distribution	Use	End of life
 <p><b>Sustainability Principle 1:</b> Does the product life cycle contribute to the build-up of substances from the earth's crust? <i>(e.g. metals, minerals, fossil fuels, etc)</i></p>	<p>Carefully directed questions are asked for each life cycle stage and sustainability principle.</p> 				
 <p><b>Sustainability Principle 2:</b> Does the product life cycle contribute to the accumulation of substances produced by society? <i>(e.g. persistent chemicals, natural compounds produced in volumes that nature cannot handle, etc)</i></p>					
 <p><b>Sustainability Principle 3:</b> Does the product life cycle contribute to physical degradation of nature? <i>(e.g. overfishing, land destruction, erosion, etc)</i></p>	<p>The answers to the questions are analyzed to identify key impact areas (<a href="#">Step 6 – Analysis &amp; Synthesis</a>). Colour codes are assigned accordingly.</p> 				
 <p><b>Sustainability Principle 4:</b> Does the product life cycle contribute to any conditions that undermine people's capacity to meet their needs? <i>(e.g. unsafe working environments, health issues, financial stability, freedom, etc)</i></p>					

Table 2: Examples of strategies and actions that can come up when brainstorming solutions ([Step 7](#)) to identified challenges

How could we overcome the identified challenges connected to Sustainability Principle...?	Brainstormed actions might include...				
	Raw materials	Production	Packaging & distribution	Use	End of life
<b>1</b> (materials from the earth's crust) 	...utilizing recycled or reclaimed materials as raw feedstock, thus reducing the need for extraction of oil from the ground	...a reduction in the overall carbon emissions associated with product production.	...switching to bio-based packaging alternatives that are sustainably sourced.	...a product that enables less fossil fuel sourced energy to be used in application e.g less hair dryer time	...a product design that allows for easy product disassembly, reuse of components and recycling.
<b>2</b> (substances produced by society) 	...sourcing of organic ingredients.	...use of green chemistry concepts in production processes.	...biodegradable packaging.	...developing a solution that eliminates the need for maintenance and cleaning chemicals.	...selecting materials to ensure that the product is biodegradable at end of life.
<b>3</b> (physical degradation of nature) 	...sourcing initiatives that avoid over extraction or preserve biodiversity.	...a reduction in the amount of water needed in production processes.	...a reduction in overall packaging and hence a reduction in overall resource consumption.	...a shift to an ICT-solution which eliminates the need for consumables (in the form of paper)	...ensuring that no product or packaging goes to landfill.
<b>4</b> (barriers to meeting human needs) 	...fair and community trade initiatives and support for traditional livelihoods.	...a breakthrough that ensures health and safety risks for workers are reduced.	...safe packaging and distribution that is far quieter, and hence less impactful, to local neighborhoods.	...a specific product application that is safer to use or addresses health concerns (non-allergenic etc.)	...a built-in maintenance service that creates jobs and lengthens the product's lifespan.