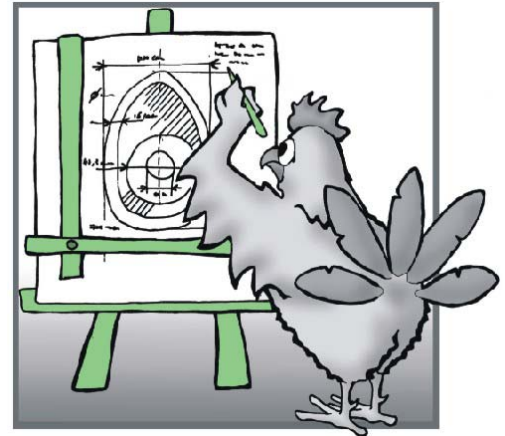


# SIMPLE LCA

This tool has been developed by Balázs Havér, deputy director of the Hungarian Association for Environmentally Aware Management (KÖVET-INEM Hungária). It is based on the Hungarian version originally published in his handbook *Termékek és környezetvédelem (Products and Environment)*, KÖVET, Budapest, 2001.



The intention of this tool is to develop our own products in a special way to minimize adverse direct and indirect environmental impacts, parallel to making them more attractive from a market point of view. The target group consists of small and medium sized companies, so the Life Cycle Assessment (LCA) tool is considerably simply.

Let us summarize why we have to develop environmentally friendly products:

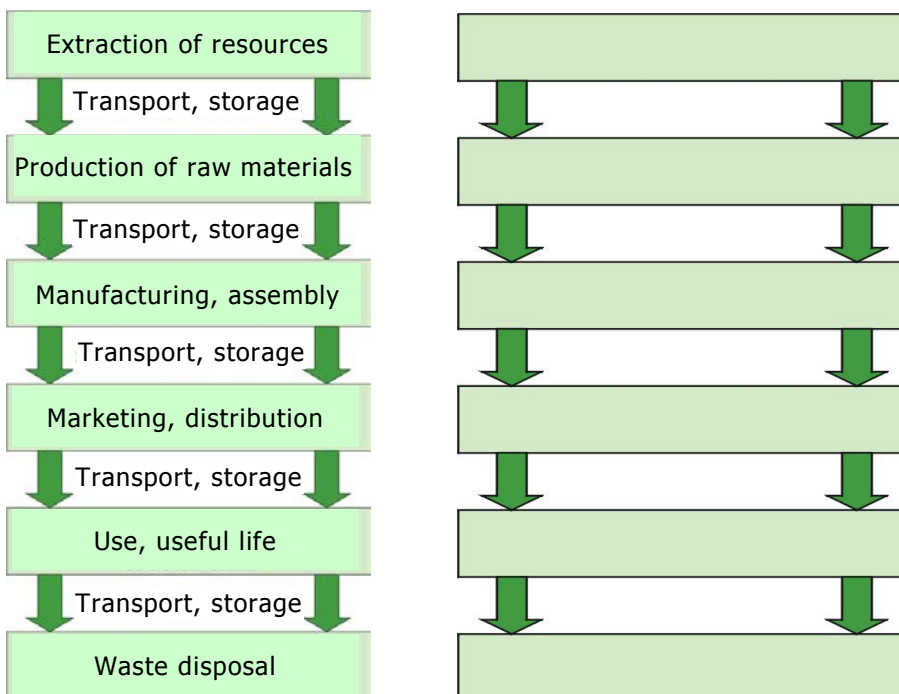
- for keeping up with market trends,
- for making our living,
- for having ease when complying legal requirements,
- for sending a signal to consumers and competitors: it is possible to act in an environmentally conscious way and we act upon that,
- to keep our little Earth for a while.

Next, in the spirit of Life Cycle Assessment we answer the question, which are the key environmental characteristics of our product. In other words, which tasks should we concentrate on when we are up to improve.

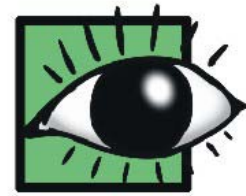
## ***SIMPLE LIFE CYCLE ASSESSMENT***

***1. Select your core product! Sketch out the life cycle of the product, assisted by the chart below! Remember: your company is only one stage in the whole chain!***

***Under each stage you can write processes, typical market actors, or even specific companies. Highlight your own position in the graph! Based on the nature of the product, you can merge or split modules.***







Example: *enamel paint with solvent*

<b>Basic need</b>	protective, decorating layer is necessary for in- and outdoor wooden and metal surfaces										
<b>Product</b>	enamel paint containing solvent										
<b>Environmental impact</b>	<b>Energy consumption</b>		<b>Waste generation</b>		<b>Air pollution</b>		<b>Water pollution</b>		<b>Soil contamination</b>		<b>Total</b>
1 – Process or method with low energy consumption											
2 – Average energy consumption											
3 – Large consumption											
1 – Little waste, no hazardous											
2 – Average waste, no specially high volumes or risks											
3 – High volumes, also hazardous waste											
1 – Process or method with low energy consumption											
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1 – Process or method with low energy consumption											
2 – Average energy consumption											
3 – Large consumption											
	Sum up the values in the row										
<b>Extraction and process of crude oil</b>	3		3		3		3		3		15
<b>Mining (pigments, adhesives)</b>	3		2		2		2		3		12
<b>Production of raw materials</b>	3		2		2		2		2		11
<b>Transport of raw materials</b>	2		1		3		1		2		9
<b>Paint factory</b>	3		3		2		2		2		12
<b>Transport, trade</b>	2		3		2		1		1		9
<b>Application (manual)</b>	1		3		3		3		3		13
<b>Disposal of hazardous waste occurring during application</b>	3		3		3		2		2		13
<b>Total</b>	20		20		20		16		18		94

**3. Own impacts: Do not forget to evaluate your own environmental performance at a much more thorough way<sup>1</sup>. Going through the simple LCA test does not mean you do not have to make particular steps to improve environmental awareness and actions of yourself and others. Now we focus own what is your role in the whole life cycle, to have a clear view of dimensions and opportunities.**

**4. Horizontal totals: Total sums at the end of the rows can range between 5-15, we can state that we have a significant value above 10. Concentrate on significant values – set up at least an off-hand program on how to develop in these stages. You have two options:**

**a. You can shift to another supplier, if the current one is really poorly evaluated via LCA, not willing to improve and you have a considerably better option.**

**b. You can choose a product alternative, which performs notably better in the specific stage.**

**5. Vertical totals: Also here, please concentrate on the most significant values. These are the most significant impacts concerning the whole life cycle of the product. How can you act when facing high values?**



**a. In case of high energy consumption: Initiate or launch an energy saving program embracing the whole life cycle. Calculate the cumulative energy content of the product in all stages. Make energy consumption a critical purchasing criterion.**

**Cumulative energy content:** energy used to produce, transport, use etc. the product, in relation to product unit (eg. MJ/kg, GJ/piece).

**b. In case of substantial waste generated: Select less dangerous materials, this will result in less hazardous waste. Search for the causes of waste, rethink packaging in the intermediary stages and final packaging to the consumer. Seek reuse and recycling opportunities. Try to collect and properly handle post-consumer waste.**

**Reuse:** utilization the product for the same purpose for the second (third etc.) time, eg. refilling mineral water bottles.

**c. In case of major air pollution: Your simplest option would be again to seek alternative products and technologies with smaller air emissions. Make air pollution potential a critical purchasing criterion. You can also join cleaner production programs. These are primarily targeted at minimizing adverse emissions.**

**Recycling:** utilization of the material from what remains from the product or packaging (waste), eg. pulping paper waste to produce "grey" paper.

**d. Critical jeopardy to water ecosystems: Keep an eye on how to select and influence your business partners and suppliers. Investigate alternative technologies common in other sectors.**

**e. High risk of soil contamination: Review transport, storage and packaging of materials and semi-finished products. Seek less risky alternatives, suppliers with better environmental performance!**



**6. You can add up the row-totals and have an overall value, but be precautious in using this! You can apply this to think about developing a more ecological product. However, be careful: you can only compare values of life cycles with the same stages and characteristics. You can also be misled thinking your result is an absolute value. No, its minimal value is not zero and the actual value is only proportional to the environmental performance of the product, but does not measure it exactly.**

<sup>1</sup> See other tools of environmental management: eco-mapping, environmental performance evaluation, environmental management systems etc.