

Which of the following is not usually a part of life cycle assessments?

- a. Determination of the environmental and human health impacts
- b. Statement of the boundaries or limitations of the assessment
- c. Determination of the energy and material requirements for running the process
- d. **Analysis of the commercial and cultural aspects of running the process**

Life cycle assessments focus on the environmental impacts of products, processes or services, through production, usage, and disposal.<sup>1</sup>

There are four linked components of LCA:<sup>2</sup>

- **Goal definition and scoping:** identifying the LCA's purpose and the expected products of the study, and determining the boundaries (what is and is not included in the study) and assumptions based upon the goal definition;
- **Life-cycle inventory:** quantifying the energy and raw material inputs and environmental releases associated with each stage of production;
- **Impact analysis:** assessing the impacts on human health and the environment associated with energy and raw material inputs and environmental releases quantified by the inventory;
- **Improvement analysis:** evaluating opportunities to reduce energy, material inputs, or environmental impacts at each stage of the product life-cycle.

Another important aspect is social life cycle assessment (S-LCA), a method which can be used to assess the social and sociological aspects of products, their actual and potential positive as well as negative impacts along the life cycle. This looks at the extraction and processing of raw materials, manufacturing, distribution, use, reuse, maintenance, recycling and final disposal.<sup>3</sup>

S-LCA does not provide information on the question of whether a product should be produced or not – although information obtained from an S-LCA may offer “food for thought” and can be helpful for decision makers from business, governmental organizations and NGOs when choosing between products.<sup>4</sup>

1. ISO 14040.2 Life Cycle Assessment - Principles and Guidelines
2. Tellus Institute
3. Sudipta Dasmohapat, Social Life Cycle Analysis (SLCA)
4. <http://www.lifecycleinitiative.org/starting-life-cycle-thinking/life-cycle-approaches/social-lca/> (accesses March 9, 2017)

For more information check out:

1. Braden R. Allenby, Industrial Ecology (2nd Edition)
2. Life Cycle Assessment Part 1: Framework, Goal and Scope Definition, Inventory Analysis, and Applications  
G Rebitzer et al. Environ Int 30 (5), 701-720. 7 2004.