

Life Cycle Assessment: finding the best approach for your company

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LCA is a scientific method for assessing the environmental impact of a product or service associated with a product's cradle-to-grave lifecycle. EU regulations, international (green marketing) standards and market demand are increasingly urging manufacturers to provide greater transparency on the composition and environmental performance of their products.

Critics claim that underlying assumptions and choice of scope and data can steer the outcome of any LCA towards a result that best suits the owner. **Several mutually reinforcing developments** will counter this whilst increasing the necessity of using (simplified) LCA within businesses:

1. Harmonized standard for LCA and Environmental Product Declaration

The European Commission embarked on a mission to reach harmonized rules for conducting LCA's for different product groups, so called Product Environmental Footprinting (PEF). You could call it a European standard for type III, i.e. third-party verified, Environmental Product Declarations (EPD). If a customer wants to compare, for example, different TV sets from different manufactures and the TV sets carry a PEF label, he is assured he is comparing apples with apples. At the moment, several PEF pilots are carried out on a selected group of products.

2. Increasing product disclosure expectations

You could ask yourselves why a company should comply with PEF. Most consumers are mostly concerned with price. And it is often argued whether a consumer can understand LCA results. It's complicated enough for LCA practitioners already. The communicative format of EPD's will indeed be a big challenge especially in the business-to-consumer (B2C) market. In the business-to-business market however, especially in the building and construction sector, it is already becoming general practice that availability of an EPD can give credits in public tenders. Legislation like REACH and RoHS is a prelude for the increasing trend towards full material disclosure. It is thus to be expected that in the future EPD's or some kind of LCA based eco-passports will also be used in B2C markets.

3. Battle against greenwashing

Many companies use the power of green marketing knowing that 'green sells'. But unfortunately it is often deceptive marketing. A 2010 study found that more than 95% of consumer products in the North American market that were claimed to be green were found to be guilty of greenwashing. In some countries, e.g. the USA and Australia, guidelines have been issued that prescribe general rules for non-deceptive communications. They state that green claims should be substantiated with sufficient proof. Merely claiming a product is energy-efficient, environmental friendly or green is not allowed. In

USA this has already resulted in several companies being sued. Although LCA or EPD's are not prescribed, it is generally accepted that LCA currently is the best available method to assess the environmental performance of products.

4. Life-cycle perspective in ISO14001:2015 standard

Life-cycle thinking will also be incorporated in the revised ISO14001 standard for environmental management. The standard does not require a formal life cycle analysis but it does require an organization to:

- a) determine environmental requirements for the procurement of its products and services;
- b) ensure environmental requirements are considered in the design, delivery, use, and end-of-life treatment of its products and services;
- c) communicate relevant environmental requirements to suppliers and contractors;
- d) provide information about potential environmental impacts during the delivery of products or services during use and end-of-life treatment of the product.

5. Design for circular economy

The current Ecodesign directive is mostly targeted at energy efficiency during the use phase of products. As the energy performance of many products have improved significantly, the environmental impact of the materials becomes relatively more important. This has shifted company's attention to the environmental impact of materials, strengthened by resource scarcity and the booming trend towards circular economy.

Design for circular economy involves complex choices with regard to material composition, easy of disassembly, re-pair, re-use and recyclability. LCA is a crucial supportive instrument to assess whether the choices made, including the impact of the reverse logistics and recycling system, contribute to the goal of zero environmental impact product and service systems.

Realizing compliance - without overspending

Summarizing, you can say that through regulations, international standards and green market demands manufacturers will increasingly be forced to provide full transparency on the composition of their products, how and where the products and its materials have been made and what the environmental impact is.

The potential danger of this is the proliferation of certified LCA schemes such as Environmental Product Declarations (EPD's) as a means in itself, imposing excessive costs to companies.

How to make the right decision for your organization?

Philips Environment and Safety advises companies to assess whether formal LCA and/or certified schemes such as EPD are needed and if so to what extent and for what purpose. In many cases, qualitative life-cycle thinking or internal simplified LCA tools can be sufficient.

Would you like to know more? Do you need assistance in assessing LCA relevance for your company?

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