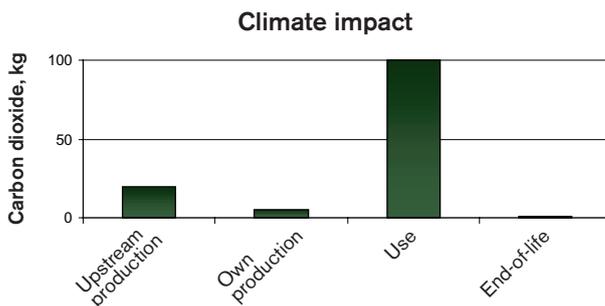




# Life cycle assessment

Life cycle assessment is a method of analyzing the environmental impact of a product's life cycle; from raw material extraction (cradle) to waste disposal (grave). Life cycle assessment is standardized in ISO 14040 and ISO 14044, but can be carried out in many different ways, depending on the purpose of the assessment. We think that life cycle assessments are most appropriate when you are looking for an unbiased understanding of how the product, process, project, company or service affects the environment.



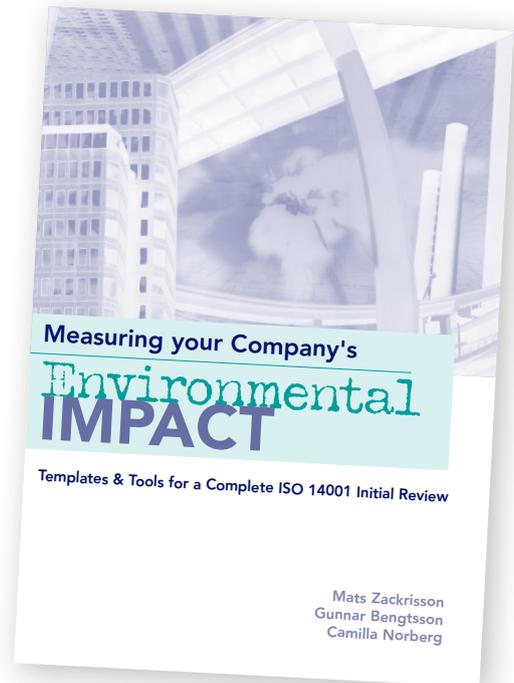
## Greening the product or service

A life cycle assessment helps to focus development efforts where the greatest environmental improvement can be achieved. A lot can be achieved even with a simplified assessment at a reasonable cost.



## Environmental Communication

What do you say to a customer who asks about the product's environmental performance compared to your competitors? A life cycle assessment provides facts for a good customer dialo-



gue. Environmental declarations based on life cycle assessments present quantitative environmental information in an objective and credible manner.

## Shaping the environmental management system

Measuring your company's environmental impact has helped many companies understand how their business affects the environment by analyzing the entire flow of resources through the company. The analysis can easily be changed to a life cycle assessment of one of its products.

## References

Swerea IVF has carried out life cycle assessments since the middle of the 1990's. The life cycle assessments are performed in accordance with the international standard ISO 14044:2006 and the guidelines of the ILCD Handbook. The software used is SimaPro. More than 100 different products have been analyzed, including:

- Clothing
- Electronics
- Coolants
- Lighting
- Office supplies
- Appliances
- Automotive components
- Packaging
- Paints and varnishes

Most life cycle assessments are commissioned by private companies and confidential. Some examples of non-confidential studies are described below.

### Commissioned by the European Commission

#### *Life cycle assessment of personal computers*

In the context of the EU-directive on eco-design of energy using products, Swerea IVF has carried out a life cycle assessment of personal computers and monitors on behalf of the European Commission. The study, in which all the major computer manufacturers took part, forms the basis for setting eco-design requirements in forthcoming European-wide regulations concerning personal computers and monitors.



### Ascom Sweden AB

#### *Life cycle assessment of the Amazon Phone*

In connection with a life cycle assessment at Ascom Sweden AB, Swerea IVF organized a workshop to generate ideas for product improvements.

Based on the results of the life cycle assessment, Ascom's product developers, marketers and production specialists generated concrete proposals on how the environmental performance of the phone can be improved. Two ideas were already in 2008 implemented in Ascom's environmental targets.



### Tour & Andersson AB

#### *Balancing valves*

Tour & Anderson AB develops and manufactures balancing valves for waterborne heating and cooling systems. Balancing valves adjust water flow so that all rooms in a house get the desired indoor temperature at minimal cost. The life cycle assessment showed that a typical installation will be carbon neutral after only a few days of operation. The assessment also showed significant differences in carbon dioxide emissions from production, depending on where the valves are produced.



Please contact us to discuss how your company or organization can benefit from a life cycle assessment.

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Swerea IVF provides manufacturing and product development companies with advanced research and consulting services. The goal is to be able to quickly put new technology and methods into practice. Public institutions also turn to us in order to develop products and processes that utilize the earth's limited resources more efficiently.