



# LifeCycleShift

## EcoShift's Life Cycle Assessment Services



### *What is Life Cycle Assessment?*

Life Cycle Assessment (LCA) is a tool used to identify the net impacts of a product's life cycle from raw materials extraction, through manufacturing, use, and disposal. LCA can be used for pollution prevention planning, green engineering and design, compliance with environmental standards, or to differentiate products based on accepted sustainability criteria. The International Standards Organization (ISO) has codified LCA procedures in ISO 14040. There are four phases in the LCA process.

*Goal and scope definition* sets the product system, functional units, boundaries, allocation methods, and impact categories.

*Inventory analysis* quantifies materials and energy flows through the product system in an inventory database.

*Impact assessment* identifies the impacts using the inventory database.

*Interpretation* provides recommendations and conclusions, and evaluates alternative processes and designs.

### *The Life Cycle Shift Service Package*

EcoShift can assist in all stages of LCA, including mapping and greening of your supply chain, quantifying and characterizing life cycle impacts, comparing to similar products, and assessing carbon payback periods and returns on investment. We tailor your LCA to explore various impact categories that can improve your company's life cycle performance. These impact categories, based on accepted sustainability or environmental compliance criteria, can include:

- Climate change
- Acidification
- Eutrophication
- Photochemical smog
- Human toxicity
- Ecotoxicity
- Water resource depletion
- Mineral resource depletion
- Fossil fuel depletion
- Land use/biodiversity
- Soil depletion

In recommending strategies to improve your products life cycle performance, we address a broad range of solutions, including:

- Greening supply chains
- Materials substitution
- Energy efficiency/renewables
- Education & behavior
- Pollution prevention

### *Why Assess Your Product's Life Cycle?*

#### *Environmental Leadership*

The public increasingly demands information about sustainability features of the products they buy. LCA can be used to demonstrate product stewardship and corporate responsibility, identify areas to effectively mitigate impacts, and differentiate products through eco-labeling. This rising tide of increased public awareness is at an early stage and will continue to swell.

#### *Regulatory Compliance*

Many climate change and energy policies are including LCA requirements for sectors like renewable energy and biofuels. For example, **California's Low Carbon Fuel Standard** and the **DOE Loan Guarantee** program both require reporting on life cycle metrics.

#### *Cost Savings & Efficiency*

Many of the same activities that reduce life cycle impacts also cut energy and other costs. Assessing and reducing your emissions has a similar impact as an efficiency audit – we find the most cost-effective way for you to operate.





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How can we help?

## *Who is using LCA now?*

Many well known companies are using LCA to differentiate the products they sell. These market leaders have conducted their own LCAs and are motivating others in all sectors of the economy to follow suit.

**Wal-Mart** has spearheaded an initiative to create a consortium that will identify the life cycle impacts of the products they sell, and use the results to convey this information to customers.

**Apple** is using LCA to market their products as the greenest in the electronics industry. LCA has helped them eliminate toxics and waste, reduce materials and packaging, lower carbon footprints, and make products more recyclable.

**BlueScope Steel** has been using LCA to improve its steel-making processes and products since 1993.

**Kia**, the Korean car maker, announced the use of LCA to establish a carbon footprint for their 2011 models, the beginning in a trend we expect to continue in the auto industry.

## *Our Services*

As the use of LCA expands, trendsetters are discovering a host of opportunities and challenges. Companies taking leadership roles are able to define sustainable practices, take advantage of an open marketplace, and retain customers. They also meet challenges in defining the scope of LCAs, standardizing methods, creating results efficiently, and using models that often lack clarity, depth and flexibility.

We help you take advantage of these opportunities and meet these challenges by assessing how you can cost-effectively understand your impacts, and then reduce them. Our transparent, comprehensive, accurate, and adaptable process results in a decision tool you can use to choose the best options for your organization.

## *What is EcoShift?*

EcoShift firmly believes that environmental stewardship and smart financial strategies go hand in hand. Motivated by a concern for the future of communities, enterprise, and natural resources, we aim to use our technical skills and interdisciplinary training to create real environmental change.

We work to achieve transitions to sustainable practices that are transparent, clearly quantified, marketable, and cost-effective. With a broadly trained team, EcoShift Consulting LLC produces comprehensive sustainability solutions for small and large private enterprises and local governments.

## *Who We Are*

EcoShift consultants are broadly trained in energy policy, engineering, carbon modeling, economics, and lifecycle assessment. Our principals are doctorate-level scientists that teach and conduct research at leading California universities, and our analysts are highly trained specialists within their respective fields.

## **Contact us:**

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