



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Department of Energy and Technology

A close-up photograph of a haystack in the foreground, with a blurred field and a sunset sky in the background. The sun is low on the horizon, creating a warm, golden glow.

Life cycle assessment

– Evaluating sustainability

LIFE CYCLE ASSESSMENT at the Department of Energy and Technology

All human activity impacts the environment. Life cycle assessment (LCA) is a tool to analyse the impact of a product or service taking into account emissions and resource use during its entire life cycle.

In the LCA group at the Department of Energy and Technology we use LCA to analyse Farms, Forests, Food and Fuels. We work with questions such as:

- How can we best utilize by-products from agriculture and forestry?
- What is the environmental impact of biofuels?
- What is the carbon footprint of different foods and production systems?
- How does bioenergy systems affect the climate?

FOOD

We use LCA to study the food supply chain in order to reduce its environmental impact. Our research is aimed at optimizing the food supply chain and informing consumers, industry and

policy makers about the environmental impact of different food products and complete diets.

FARM

The agricultural sector contributes to several environmental impacts and is a consumer of fossil resources. We study how farms can be designed to be more sustainable. The agricultural sector also plays a key role in the transition to a society based on renewable energy. We study how products produced within the agricultural sector can replace fossil ones.

FOREST

Forests play an important role in tackling climate change. Forest products can be used to either replace materials in buildings or fossil fuels. Forests store large quantities of carbon in trees and soil but do also release carbon dioxide. The impact on the climate depends not only on how much greenhouse gases is released or stored, but also on how long it stays in the atmosphere. Our research investigates positive and negative effects on climate from different forestry practises.

FUEL

Transportation is a major emitter of greenhouse gases. This has led to an increased interest in biofuels, both as liquid (such as biodiesel) and gaseous (such as biogas). We study how the cultivation, harvest and use of agricultural products for biofuel production affects the environment.

EDUCATION

We give courses in life cycle assessment at basic and advanced level. Students taking our courses have a background in for example: Environmental Science, Agronomy and Civil Engineering. We teach LCA at:

- Bachelor level courses
- Master level courses
- PhD-courses
- Bachelor and Master theses

Visit our homepage for more information:
www.slu.se/lca



ABOUT US

We are about 20 staff working with LCA as a methodology, located at the department of Energy and Technology at the Swedish University of Agricultural Sciences

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