Sustainable Leather Foundation
Standard for Environmental Footprint

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FSE4 ENVIRONMENTAL FOOTPRINT STANDARD AND BENCHMARK

Summary: The SLF environmental footprint standard provides the context, definitions, and methodology around environmental footprints in the leather industry. This document gives the facility under audit the principles and general expectations, but it is not exhaustive and recognises that there will be differences within regions for national and local laws.

Where there are matters of interpretation in relation to the standard, applicable laws or organisational norms, the auditor will assess in favour of the employees in that facility.

1. Scope

1.1 The *SLF Environmental Footprint Standard and Benchmark* specifies the definitions, general principles, framework, requirements, and guidelines of the environmental footprint of a particular facility or product type. The key areas include a detailed supply chain map, scope of life cycle analyses, life cycle inventory assessment, life cycle impact assessment, input and output flows identified, and a formal policy based upon completed footprint to reduce environmental impact.

1.2 Environmental footprints, also referred to as life cycle assessments/analyses, are an integral part of understanding the total inputs and outputs required to make a product type or run a particular facility. With this comprehensive evaluation, organisations can identify the environmental aspects and impacts that affect their employees, environment, and local communities.

1.3 The *SLF Environmental Footprint Standard and Benchmark* is intended to ensure that SLF certified facilities are aware of the necessary frameworks and guidelines required to accurately complete an environmental footprint and subsequently use its data to drive environmental performance improvements.

2. Normative references

The following referenced documents are useful in the understanding of this document and are provided for further guidance. In the case of dispute these references form the core of the evidence in support of the Standard used here:

ISO 14040:2006 Environmental management – Life cycle assessment – Principles and framework[1]

ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines[2]

3. Terms and definitions

3.1 **Environmental Footprint / Life Cycle Analyses / Life Cycle Assessment (LCA):** Compilation and evaluation of the inputs, outputs, and the potential environmental impacts of a product system throughout its life cycle. Common environmental impacts evaluated are climate change (CO_2-eq), acidification, eutrophication, smog formation, ozone depletion, etc.)

3.2 **Supply Chain:** The sequences of processes involved in the production and distribution of a leather product. Those processes that occur prior to (as incoming materials) to the facility would be considered “upstream” and those processes that occur after (as outgoing shipments) would be considered “downstream”.

3.3 **Life Cycle Inventory (LCI):** Phase of environmental footprint/LCA involving the compilation and quantification of inputs and outputs for a product throughout its life cycle.

[1] https://www.iso.org/standard/37456.html

[2] https://www.iso.org/standard/38498.html

3.4 **Life Cycle Impact Assessment (LCIA):** Phase of environmental footprint/LCA aimed at understanding and evaluating the magnitude and significance of the potential environmental impacts for a product system throughout the life cycle of the product.

3.4 **Third-Party Auditor/Assessor:** An independent contractor or service entity conducting a certified audit outside of SLF and the organisation involved.

3.5 **Mass-Balance:** A total of the inputs and outputs for a particular resource accounting for all resources in and out of a particular system or process.

3.6 **Scope of Environmental Footprint/LCA:** The scope includes the following: a product system to be studied, the outlined processes/supply chain of selected system, a functional unit, system boundary, allocation procedures, impact categories, methodology of impact assessment, data requirements, assumptions, limitations, data requirements, review, and reporting process.

3.7 **Functional Unit:** Quantified performance of a product system for use as a reference unit (e.g., 1 m^2 of leather, 1 pair of shoes, etc.)

3.8 **System Boundary:** Set of criteria specifying which unit processes are part of a product system (e.g., start at raw hide through to finished hide or start at wet blue through final product).

3.9 **Allocation:** Division method of the input and/or output flows of a process or a product system between the product system under study and one or more other product systems (e.g., leather could have environmental footprint calculated by the weight of the hide or the economic value of the hide)

3.10 **Impact Category:** Area representing environmental issues of concern to which life cycle inventory analysis results may be assigned

4. Principle

4.1 The principle of the *SLF Environmental Footprint Standard and Benchmark* is based upon the need for responsible organisations to better understand the environmental impacts their products and processes have on the internal and external environment. The purpose of completing an Environmental footprint is as follows:

4.1.1 Identify opportunities to improve the environmental performance of products at various points in their life cycle
4.1.2 Inform decision-makers in industry, government, or non-government organisations (e.g., for the purpose of strategic planning, priority setting, product or process design or redesign)
4.1.3 Select relevant indicators of environmental performance, including measurement techniques to identify critical areas of improvement or create new marketing/sales opportunities

4.2 The completion of an environmental footprint / LCA is a detailed and specialized process. It is highly advised by SLF for those organisations starting their first environmental footprint / LCA to purchase and study the detailed requirements of ISO14040:2006 and ISO14044:2006. Environmental footprints can be simplified by utilisation of a reduced scope (see definition 3.6) but requires focused attention and dedicated resources to fully learn and select the correct parameters for your organisation.*

5. Procedure

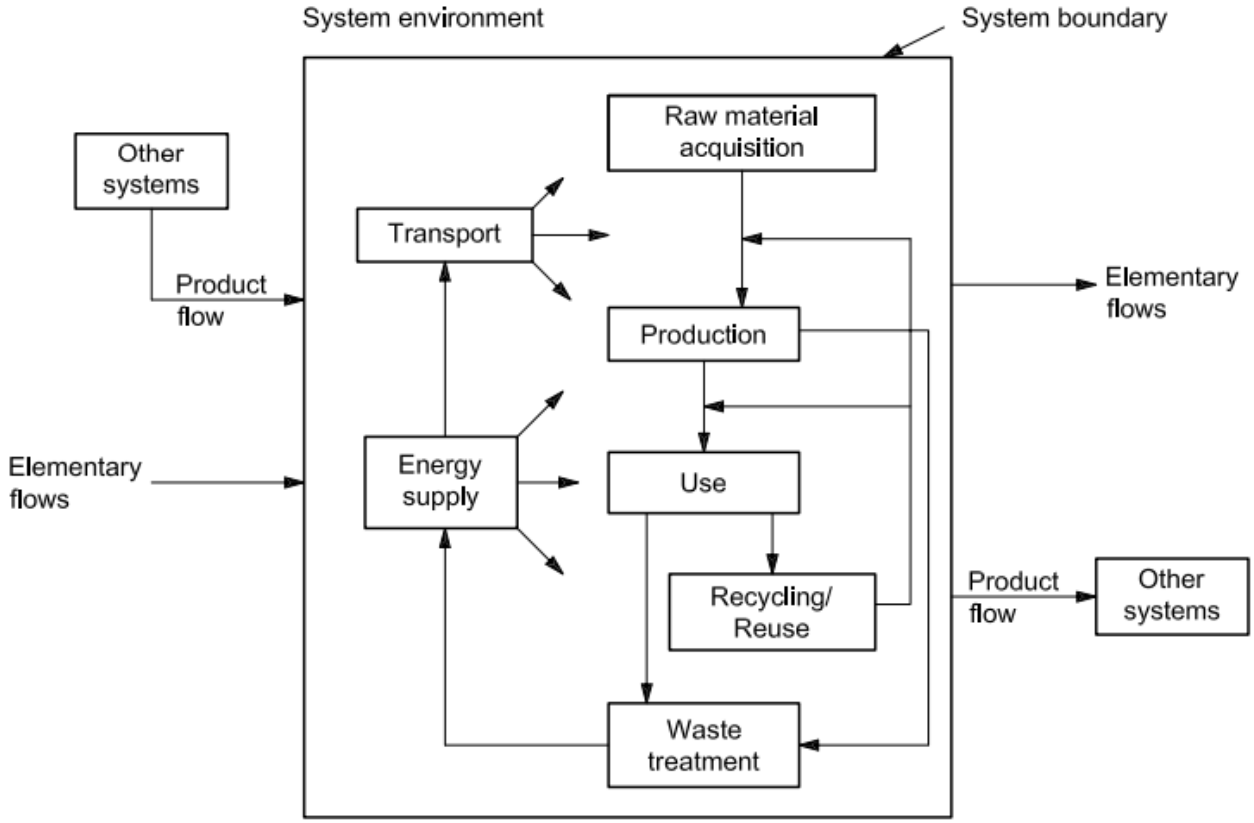
5.1 The facility will provide data and documentation that demonstrates an environmental footprint meeting the requirements of the *SLF Environmental Footprint Standard and Benchmark* as follows:

5.1.1 Supply chain map
5.1.2 Scope of LCA defined (as per ISO14040:2006)
5.1.3 Completed life cycle inventory (as per ISO14040:2006)
5.1.4 Completed product-level life cycle impact assessment (as per ISO14040:2006)
5.1.5 Identified product-level inputs, intermediate and output flows per designated scope (e.g., mass-balance)
5.1.6 Formal policy with goal to reduce environmental impacts from environmental aspects (air emissions, effluent parameters, solid waste, land contamination, etc.) based upon conclusions from environmental footprint/LCA

5.2 The general process to completing the requirements of 5.1 are as follows:

5.2.1 Collect, review and study ISO14040:2006 (primarily) and ISO14044:2006 (secondarily)
5.2.2 Identify lead employee to conduct project
5.2.3 Define goal and scope of environmental footprint / LCA (reference definition 3.6)
5.2.4 Identify environmental footprint project budget and timeline
a. If budget allows quote consultants for training and expert management
5.2.5 Redefine and interpret goal and scope to suit budget and timeline requirements
5.2.6 Conduct life cycle inventory (LCI) analysis
5.2.7 Review and interpret LCI against goal and scope
5.2.8 Conduct life cycle impact assessment (LCIA) per scope identified
5.2.9 Review and interpret LCIA against goal and scope
5.2.10 Draft summary of conclusions, metrics, assumptions, and limitations of analysis
5.2.11 Outline process for review and feedback mechanism for continuous improvement
5.2.12 Complete policy document formalising improvement actions associated with conclusions

5.3 Example diagrams selected from ISO14040:2006



Example of a product system for environmental footprint/LCA

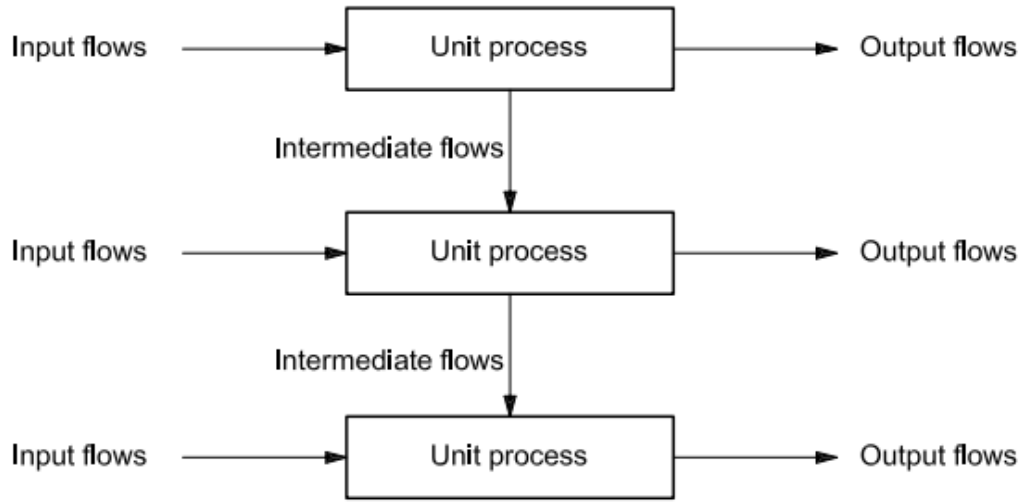


Figure 3 — Example of a set of unit processes within a product system

Example of a set of unit processes within a product system

5.4 The measurement of environmental footprints may differ throughout the leather industry based upon which part of the leather-making process the facility takes part in and the selected scope of the footprint. Most of the data utilised in the environmental footprint/LCA inventory analysis can be collected and reviewed through existing environmental documentation. For first-time attempts at environmental footprint data collection, utilise existing EMS performance/metric tracking documentation to collect raw data. For more details on which data to collect, reference the below SLF Standards to provide details per input and output type. Please reference the following SLF Standards and Benchmarks and Explanatory Notes & Templates for additional explanation. These documents are located in the "Technical Library" within the Partner Only Resources area of the website and are designed to support either in preparation for audit or for improvement measures: https://sustainableleatherfoundation.com/partner-only-resources/technical-library

5.4.1 Explanatory Notes and Templates
- 5.4.1 FSE6.1 Energy Consumption
- 5.4.2 FSE7.1 Water Use
- 5.4.3 FSE8.1 Raw Materials and Chemicals
- 5.4.4 FSE9.1 Energy Efficiency and Equipment & Machinery
- 5.4.5 FSE10.1 Air Pollution
- 5.4.6 FSE11.1 Effluent and Water Quality
- 5.4.7 FSE12.1 Soil Contamination
- 5.4.8 FSE13.1 Solid Waste
- 5.4.9 Explanatory Notes and Templates
  - a. EM4 – Environmental Footprint; page 6[3]
  - b. Template 4 – OHS Aspects and Impacts Register
  - b. Template 5 – Best Available Technique Register
  - c. Template 6 – H_2S Risk Assessment
  - d. Template 10 – Supply Chain Map

[3] Reference SLF's DEC 2022 LCA Pathway Paper for a "How-To" Guide on starting an LCA