



# Sustainable Leather Foundation's pathway to Low Carbon Footprint



**Pathway Paper 8 V1.2**

Issue Date: 20 March 2023

## Sustainable Leather Foundation's Pathway to Low Carbon Footprint

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### Introduction

The Intergovernmental Panel on Climate Change (IPCC) has published through the 6<sup>th</sup> annual report the scientific evidence that climate change is being driven by human activities. The leather industry must play its part to help get the carbon emissions of its activities down. It was agreed at the 2021 Conference of Parties, COP26, in Glasgow that the following dates/targets are required:

- A 50% reduction in greenhouse gas (GHG) emissions by 2030.
- That economies should be at net zero carbon by 2050.

Facilities are strongly encouraged to support these aims by making them their own environmental objectives. Net zero implies that the company will not be adding any carbon to the atmosphere by that date, in other words it will take away as much as it adds.

The addition of GHG to the environment by the leather value chain comes from:

- That inherited from the livestock part of the life cycle.
- From transportation of raw materials and final articles.
- From the energy used directly in processing and the indirect energy used to make (or process) the other inputs needed in the value chain.
- From the direct GHG emissions from the process, e.g., effluent treatment.
- From the emissions associated with the in-life and end-of-life stages of the leather.

### What is a GHG and Footprints?

The Earth's atmosphere can retain or release heat that is building up on the Earth's surface. If there is a build-up of greenhouse gases (GHG), then the heat will not be released off the Earth. The reason the heat is not released is that the GHG bounce the heat back to the surface.

The typical GHG that do this are:

- Carbon dioxide, CO<sub>2</sub>
- Methane, CH<sub>4</sub>
- Nitrous oxide, N<sub>2</sub>O

Facilities should do what they can to reduce these gases being directly or indirectly given off from the processes (and inputs) that they use.

Another important element of the carbon footprint is the difference between fossil and biogenic carbon. Biogenic carbon is the carbon that is cycled by nature through plants, animals, and air. Fossil carbon is the carbon that is stored in the Earth. Fossil carbon has been locked away from the biogenic cycle and is only released through mining and burning, or decay, of fossil carbon.



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Leather (and the meat industry) carbon is part of the biogenic cycle, except the fossil carbon that is used for the energy, some of the chemicals, and the transportation of those leathers. Fossil carbon is the big focus of carbon footprint reduction.

Methane and N<sub>2</sub>O (listed above) are a little more serious than CO<sub>2</sub> in carbon footprint analysis. The reason for this is that they reflect more heat back to the Earth than other GHG.

## Carbon Challenges

The livestock part of the leather value chain adds the most carbon to the footprint of leather. The GHG associated with livestock are methane, N<sub>2</sub>O, and CO<sub>2</sub>, with the first two being very warming GHG. Another major contributor to the carbon footprint of livestock is the deforestation part. Cutting down trees to grow crops and livestock adds enormous amounts of GHG to the atmosphere.

The carbon associated with chemicals, energy, and transport are another major challenge for the industry. As the fossil carbon intensity of the chemistry, the energy, and the fuel (for transport or energy) increases, then the footprint of the product goes up.

The in-life and end-of-life impacts of leather are the lowest footprints of any material. The durability and longevity of leather means that it displaces other materials, such that if the footprints of those other materials are added up, then leather reduces the overall impacts to the planet.

At the end-of-life, a final product can be decomposed by digestion, burnt, or stored in landfill. The decomposition and burning add to the GHG amount in the atmosphere. Carbon stored in landfill could stay there for a very long time unchanged, or it too could contribute to GHG as it breaks down. Breakdown in landfill produces methane which adds to the global warming issue.

## SLF Approach

The first approach is to estimate the carbon and environmental footprint of a value chain. The measurement must be fair without counting the amounts twice, and without exaggerating the estimation. The term estimation is used as it is virtually

impossible to measure the actual GHG that are directly or indirectly given off. All industries use estimation.

How that estimation is done is very important. The most common method is to decide the boundaries of where the measurement starts and where it ends, deciding how much footprint can be passed onto other outputs, and what the unit of measurement that the footprint per unit will be given as, e.g., kg CO<sub>2</sub>-e/m<sup>2</sup>.

SLF believes that the best way to measure the overall footprint of each leather product is to break down the process into individual process parts, estimate the footprint of those tiny parts, and then build the total up when the total for a leather product is required, like building blocks. Alternative methods that try and look at the whole footprint for the facility are complicated as all the different product lines through a facility will differ widely in their total impact estimates.

## Tools



The Sustainable Leather Foundation's tools (available through the web page) and Foundation partnership provide a key mechanism to enhance knowledge about carbon responsibility.

By working with industry and non-industry stakeholders, the Foundation takes the best ideas and thinking (published evidence) and translates them into technical positions and guidelines. These can be used help provide critical value chain advice that scale solutions.

The Sustainable Leather Foundation's audit standard is built on the idea that some carbon (or environmental) footprints are key responsibilities for the value chain and the outputs (namely GHG) must be minimised. The

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explanatory notes and the standards and benchmarks support the work outlined in the audit standard. A tannery or chemical supplier is encouraged to work with the Foundation to improve the evidence base and the quality of the standard/benchmarks used. The global industry can always improve the quality of the information it uses.

SLF's Transparency Dashboard™ will clearly indicate a value chain partner's ability to demonstrate their own careful thought and deliberation on the size of environmental footprint their materials have in the value chain.

## Future

The decarbonisation of the global industry will require facilities to continuously think about the energy mix that they use and to reduce fossil carbon wherever possible. The industry should look into regenerative farming practices or the storage of carbon in soils through the composting of biodegradable leathers. Fossil carbon that has been released in the last 100 years is a major contributor to climate change and industry must do its part to see how that fossil carbon can be removed and restored into the Earth.

The Foundation, through its work on the Audit Standard, can help facilities prioritise carbon intense activities and support them in making choices about minimisation strategies. The SLF Transparency Dashboard™ will also allow facilities to demonstrate their year-on-year improvement in their carbon emissions.

SLF also works with stakeholders to define a framework for definitions, policies, commitments, and procedures to facilitate real problem solving and innovation on environmental footprint. To achieve that, we work with chemical companies, chemical associations, machine companies, machine associations, test houses, farms, facilities, and industry bodies.

The environmental footprint of the facility is the emission impact that it currently has. The facility must know what it wants that level to be at and must want to improve that till it reaches zero or below. Other industries are already talking about carbon positive – in other words how their processing could be taking

carbon out of the atmosphere to reverse the historical damage already done.

The Foundation seeks a pathway to balance, that protects people, the planet and is economically viable for the benefit of future generations.



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Original Document:

Version 1.1 created 19 November 2021.

Version 1.2 revised 20 March 2023.

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