

How much CO₂ is generated when producing ketchup – and what does your machine have to do with it?

Imagine this: over a span of 20 years, your machine produces thousands of tons of tomato sauce – and in the process, generates around **600 tons of CO₂**. Sounds like a lot? It is. That's roughly equivalent to **80 car trips around the globe**.

This is exactly where our **Product Carbon Footprint (PCF)** comes in. It reveals where emissions occur – and more importantly: where you and we can act to reduce emissions, conserve resources, and lower operating costs.

Welcome to a new kind of transparency – one that benefits both you and your customers.



What is a Product Carbon Footprint (PCF)?

A PCF captures all greenhouse gas emissions generated throughout a product's lifecycle – from raw material extraction and manufacturing to use, maintenance, and end-of-life (*cradle-to-grave*).

For our machines, this means we analyze emissions caused by materials such as stainless steel, copper wiring, electronic components, and other parts. We also consider electricity consumption during operation, the use of cleaning agents (CIP), as well as service and maintenance activities.

The results not only highlight the main emission drivers – the so-called “climate hotspots” – but also help identify targeted improvement opportunities, for example in machine design, material selection, or day-to-day operation. At the same time, PCFs support you in achieving your sustainability goals – credibly, fact-based, and future-ready.



Real-World Example: Stephan V-MC 801

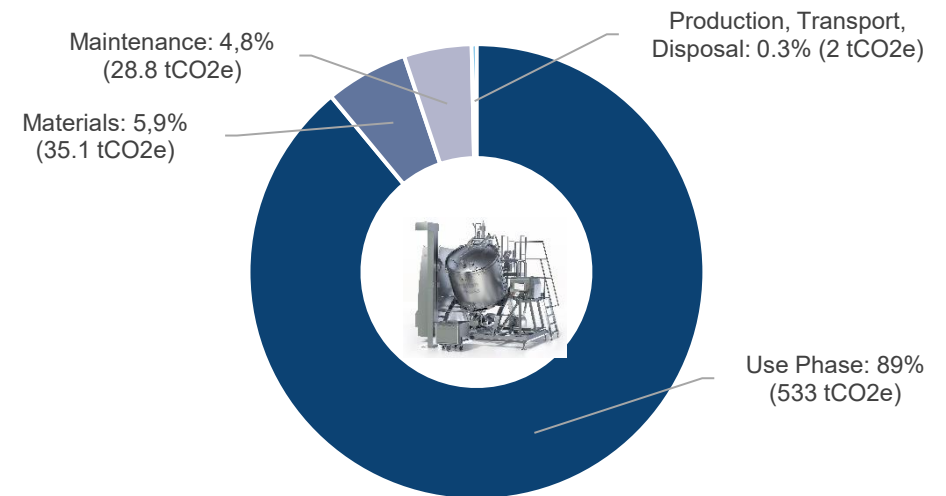
For our multi-purpose machine, we assumed 20 years of ketchup production and calculated the **cradle-to-grave CO₂ footprint** for that period:

600 tons of CO₂ – based on a typical usage scenario.

→ The biggest lever?

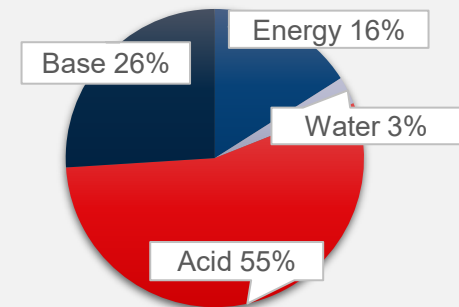
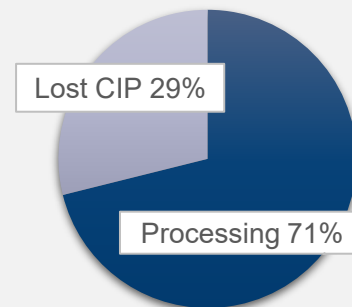
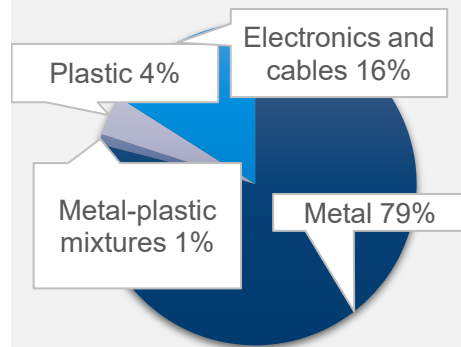
The **use phase** – where most emissions occur, primarily due to energy consumption during operation and cleaning (CIP).

600 tonnes CO₂ through 20 years of ketchup production



Efficiency starts with the details

	Materials	Use Phase	CIP Cleaning
Insights	Stainless steel, copper cables, and electronic components are key emission drivers.	Energy consumption during operation and cleaning is the main contributor.	High impact from acids and alkalis used.
Improvement potential	Targeted optimization of materials and design.	More energy-efficient machines can save both CO ₂ and operating costs.	Reduce chemical usage and improve cleaning cycles.



Your Benefits from the PCF Analysis

Reduce operating costs

More energy-efficient machine designs help lower electricity consumption – and reduce your energy bills.

Minimize resource usage

Optimized CIP cycles (Clean-in-Place) save water, chemicals, and energy – without compromising hygiene or product quality.

Future-proof retrofit options

Retrofit solutions and lifecycle support keep your machine up to date – without the need for costly reinvestment.

Tailored PCF insights

Looking ahead, customized PCF data will be available – adapted to your location, energy mix, recipes, and actual usage.

More machines. More transparency. By 2027.

We are scaling up. By the end of 2027, we will provide PCF analyses for our **top 10 machine models** – empowering you to make even more informed decisions and achieve your own sustainability goals more effectively.

Interested?

Let's talk about how sustainable technology can benefit your production – get in touch for a first conversation.

 <https://www.proxes.com/en/contact>