

CARBON FOOTPRINT OF GELATINE AND COLLAGEN PEPTIDES

As part of our commitment to sustainable development, the Gelatine Manufacturers Europe (GME) initiated a project to gain insight in the development of the carbon footprint of gelatine and collagen peptides produced by the GME members over the years 2006 to 2022.

Scope:

In order to obtain representative results, the assessment was made with the cooperation of all GME members and includes all different types of raw materials and all types of processing.

Currently: The study was performed in line with international standards on lifecycle assessment (ISO14040/44: 2006), taking into account recent international developments on carbon footprinting (e.g. the GHG protocol of the WRI and WBCSD and the British carbon footprint specification PAS2050, and Product Environmental footprint (PEF) guidance), and was carried out by an independent consultancy bureau.

Cradle-to-gate and gate-to-gate principles:

The cradle-to-gate principle for gelatine and collagen peptides has been chosen for the assessment of GME. This means the carbon footprint represents the total greenhouse gas emissions, in CO₂ equivalent, starting from raw material for production of gelatine and collagen peptides, through raw material processing, up to final production and packaging of the gelatine and collagen peptides by the GME members.

The overall cradle-to-gate carbon footprint assessment has shown that the agricultural supply chain for raw materials is responsible for a significant part of the overall carbon footprint of gelatine and collagen peptides.

The animal husbandry sector itself has been undertaking significant action to better understand and reduce the carbon footprint of the sector and has in this way also helped to reduce the overall carbon footprint of gelatine and collagen peptides. However, this has not been quantified in the GME study. In this context, it is also noted that, through creating added value out of by-products of the meat and fish processing industries, also GME contributes positively to this industry's sustainability and the circular economy concept.

Since this upstream emission is out of the span of control of the GME members, further assessment was done on the carbon footprint excluding the supply chain for the raw materials: gate-to-gate principle.

Results (gate-to-gate principle):

Carbon Footprint:

The results show that between 2006 and 2022, the carbon footprint, excluding the supply chain of raw material, has been reduced by 6.5 %.

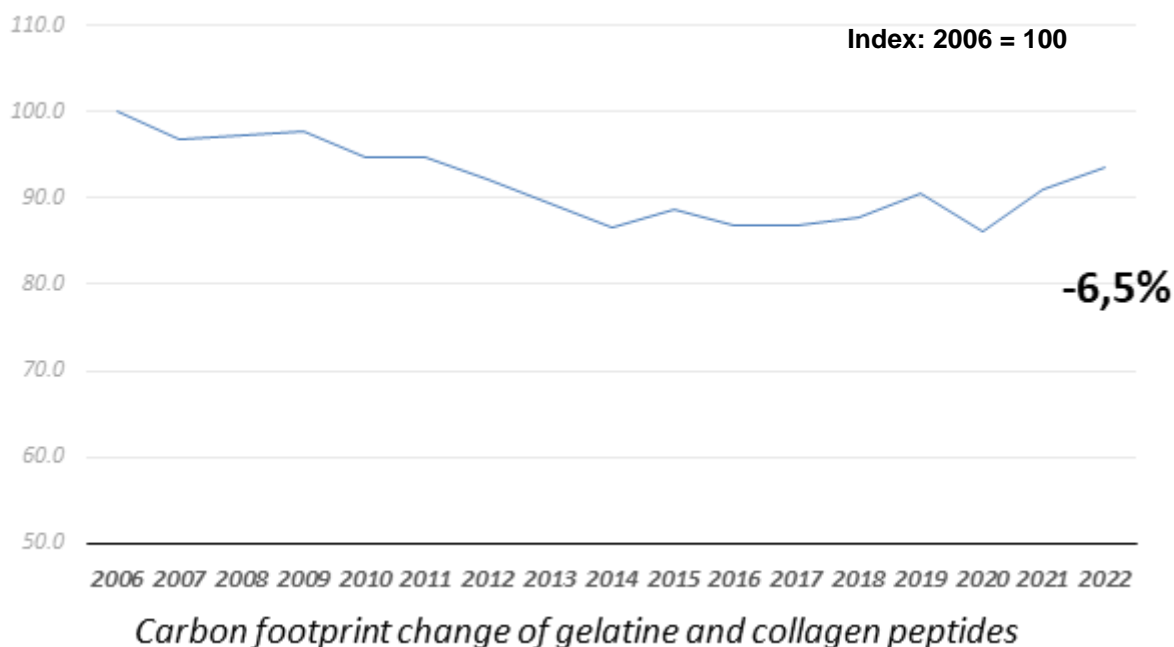


Figure 1: Weighted average carbon footprint per kg of gelatine and collagen peptides, excluding raw materials (supply chain), of gelatine and collagen peptides between 2006 and 2022 (relative to the total value of 2006 = 100); economic allocation based on 2020-2022 average prices.

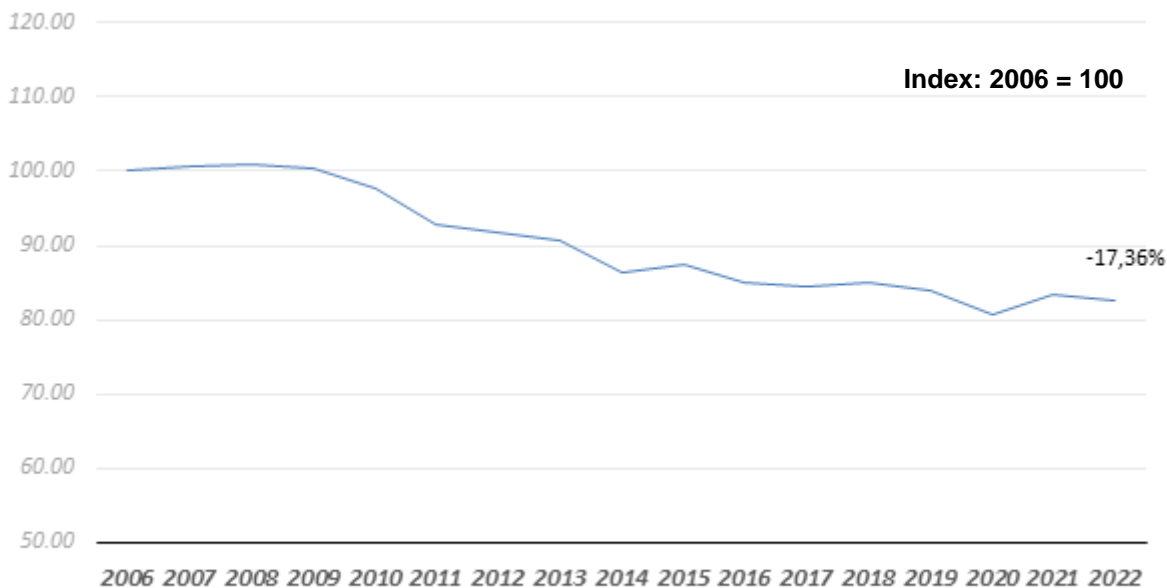
In general, the development of the carbon footprint is seen to be sensitive to the quality of the available raw material, as this influences the yields (amount of collagen present in the raw material for extraction); however, this aspect is largely influenced by general market conditions which are outside the span of control of the GME members.

This year (2022 data) an increase was observed compared to last year (2021 data). Changes from the previous year is resulting from changes in energy mix (due to the energy crisis), market and/or product portfolio and capacity utilisation changes.



Energy consumption:

The 2006 to 2022 results show a continuous reduction in energy consumption in the last years with a total reduction of 17 % and reduced slightly compared to 2021.



Energy efficiency change of gelatine and collagen peptides

Figure 2: Weighted average energy use per kg of gelatine and collagen peptides, of GME members between 2006 and 2022 (relative to the total value of 2006 = 100); economic allocation based on 2020-2022 average prices.

The reductions in the range of 17 % in 2022, compared to reference year 2006, confirms the commitment of the GME members to continuously improve their energy efficiency.

The members of GME are working towards continuous process efficiency improvements and have agreed to track the evolution of the energy use and carbon footprint in the following years.

Validation period: until 31 December 2024.

GME
Rue Belliard 40 - 1040 Brussels Belgium
Tel. +32.2.436.93.00 lje@cefic.be www.gelatine.org

A sector group of Cefic

European Chemical Industry Council - Cefic aisbl

EU Transparency Register n° 64879142323-90

