



GLOBAL ROUNDTABLE FOR SUSTAINABLE BEEF

GRSB's Beef Carbon Footprint Guideline – Fact Sheet

February 1, 2022

Overview

In June 2021, the GRSB launched its 2030 global sustainability goals. These are commitments to advance and further improve the sustainability of the global beef value chain. The goals will be led and executed by the GRSB members. To support the urgent global ambition of limiting worldwide temperature increases to 1.5 degrees by 2030, GRSB members will implement and incentivize climate smart beef production, processing, and trade, while safeguarding and building upon the carbon stores in soil and landscapes. Reducing atmospheric greenhouse gases requires both emissions reduction and carbon sequestration, where agriculture a key player in positively sequestering carbon in soils.

Climate Goal

- GRSB aims to globally reduce by 30% the net global warming impact of each unit of beef by 2030, on a pathway to climate neutrality.
- Be able to report measured progress by 2025.

The first step to being able to report measured progress by 2025 was to develop a standardized methodology that would address inconsistencies in calculating beef life cycle assessments (LCA) moving forward. These are outlined in the GRSB's Beef LCA Methodology Guideline. The guideline provides a way to estimate emissions from each greenhouse gas from primary beef production (i.e., carbon dioxide, nitrous oxide, and methane); which can then be calculated in different ways (e.g., GWP100, GWP*, RF Footprint, etc.) depending on the goal set. The second step is to use the best available metrics that recognize short lived gases and sequestration, supporting the development and implementation of accounting and reporting frameworks. This second step was outside the scope of this project and will be addressed separately. It should be recognized that different goals will require different metrics for monitoring.

What is it?

The Beef Carbon Footprint Guideline provides guidance on the calculation of greenhouse gas (GHG) emissions of beef cattle production with a life cycle perspective. These guidelines are focused on a single environmental impact, the emissions of GHG's from beef cattle production.

The Beef Carbon Footprint Guideline identifies a common approach creating consensus on international standards and current best knowledge to address methodological challenges for beef cattle production. The guideline follows international standards.

The guideline is based on the attributional life cycle assessment (LCA) approach which focuses on describing environmentally relevant physical flows to and from a life cycle and its subsystems. This contrasts with the consequential LCA approach which aims to describe how these flows will change in response to possible decisions.

Purpose

- Create consensus among available international standards on most relevant methodological aspects of LCA for beef cattle production in order.
- Provide rules to ensure alignment and consistency among studies performed for the quantification of GHGs of beef cattle supply chains.

Who is it for?

The Beef Carbon Footprint guidelines were developed for use in all countries for a wide range of stakeholders in the beef cattle production and processing sector. From livestock producers, to supply chain partners, industry advocates and policy makers interested in quantifying the climate change impact related to beef cattle. Practical recommendations applicable to most commercial beef cattle production systems are provided in this guidance.

Three main types of users have been identified:

1. National Roundtables to inform national assessments; guidelines will allow for all countries to perform calculations following the same rules, ensuring global level carbon footprint calculations are consistent.
2. Multi-national corporations (e.g., retailers or packers) involving Scope 3 emission calculations.
3. Researchers (secondary), when performing investigations involving the carbon footprint of beef cattle, can align to a specific methodology.

Beef cattle systems* in scope are cow/calf systems which produce feeder calves for further feeding/grazing, and fattening systems which consider backgrounding and finishing until desired processing weight is reached.

**In some cases, cattle from a dairy system may be integrated into a beef fattening system or directly for processing. In this case, the guideline does not elaborate on the modelling of the dairy farm but takes the IDF carbon footprint guideline (International Dairy Federation, 2015) as the leading methodological approach.*

What does it do?

The methodology is developed to:

- Quantify emissions from cradle to farm gate or cradle to processing gate
- Allow monitoring of GHG emissions through time for a specific system
- Identify main drivers for GHG emissions in the beef cattle life cycle
- Allow comparisons within the context of the same study

What does it NOT do?

Direct comparability of results between different studies is not possible as this guidance remains flexible in aspects that may lead to variations on absolute results. Nonetheless, following these guidelines allows consistency and reproducibility of GHG calculations which grants an intrinsic comparability of all studies performed in conformity to this guide.

This guideline does not provide a way to calculate net emissions after accounting for carbon sequestration. For more detail on calculating carbon sequestration see the FAO's "Measuring and modelling soil carbon stocks and stock changes in livestock production systems: Guidelines for assessment (Version 1" from the Livestock environmental assessment and performance (LEAP) partnership and) for details on calculating net emissions, see the "C-Sequ: LCA guidelines for calculating carbon sequestration in cattle production systems" lead by the Global Dairy Platform.