

# Climate solutions in dairy production: *An avoided emissions case study*

Nutritional products company dsm-firmenich, is reducing methane emissions in the beef and dairy sector.

→ **Up to 500,000 tCO<sub>2</sub>eq. avoided**

through the use of Bovaer® between 2022 and 2025.\* Methane emissions are reduced roughly:

**-30%** in dairy cows    **-45%** in beef cattle

## The reference scenario

- Livestock emissions, including those from manure and enteric fermentation during digestion, account for ~ 32% of human-caused methane emissions globally.\*\*
- Cattle typically eat a diet of forage-based feeds, concentrates and supplements. This diet does not include feed additives specifically designed to reduce methane emissions.

## The low-carbon scenario

- Bovaer® is a feed supplement that reduces the activity of the enzymes responsible for enteric methane production in cattle. Farmers mix the supplement into the animal feed ration, just as they do with minerals and vitamins.
- The assessment includes all lifecycle stages (cradle-to-gate), This includes transport to farms, which makes only a negligible contribution to milk's carbon footprint because the amount of supplement needed for each cow is very small compared to the methane reduction benefit.
- Food Safety Authorities across the world have assessed Bovaer® as safe and effective for animals and humans, and it is available in 70 countries.



**9-15%** reduction in the carbon footprint of dairy products from cows fed with Bovaer®.

## Capturing avoided emissions — assessment details

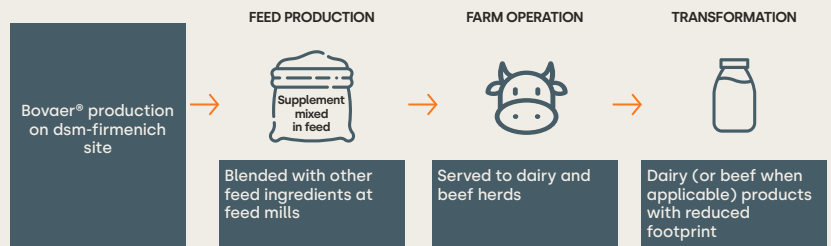
- **Functional unit:** kg CO<sub>2</sub> eq/kg fat-and-protein-corrected milk (or kg CO<sub>2</sub>eq/kg beef when applicable)
- **Impact:** 0.11 kg CO<sub>2</sub> eq/kg fat-and-protein-corrected milk.
- **Time period:** Year-on-year.
- **Scope:** The average German dairy farm, using primary data from 2022.
- **System boundaries:** Cradle to farm gate.

Use this document to support your understanding of avoided emissions calculations and disclosure as outlined in the WBCSD Guidance on Avoided Emissions:



## How it works

### System boundaries



Emissions reductions can be claimed in Scope 1 of livestock farmers and Scope 3 of the dairy and beef manufacturers.

### WBCSD Avoided Emissions Eligibility Gates

- Gate 1: Climate Action Credibility
- Gate 2: Climate Science Alignment
- Gate 3: Contribution Legitimacy

What share of the company's revenue does this solution represent?

Bovaer® is part of the Taste, Texture & Health business unit, which represents approximately 25% of dsm-firmenich's total revenue.

### Environmental and social side effects

Bovaer® makes it possible for dairy and beef farmers to have an additional income source via more sustainable products or incentives that are provided by dairy or beef processors for adopting sustainable practices.

### Third-party verification

The avoided emissions assessment has not been verified by a third party. DNV has verified Bovaer®'s life cycle assessment.

\*Combined reduction for beef and dairy cows, based on the amount of Bovaer® sold. Baseline methane emissions estimated using the IPCC 2006 / 2019 Tier 2 approach. Emission reduction potential was calculated based on model from Kebreab et al 2022. More information [here](#).

\*\*Source: <https://www.unep.org/news-and-stories/story/methane-emissions-are-driving-climate-change-heres-how-reduce-them>

PLEASE NOTE: THE CURRENT VERSION OF THE WBCSD GUIDANCE ON AVOIDED EMISSIONS IS NOT A STANDARD AGAINST WHICH COMPANIES CAN VERIFY SOLUTIONS. WE HAVE INCLUDED THIS USE CASE AS AN INDICATIVE ILLUSTRATION ONLY IT DOES NOT QUALIFY AS A THIRD PARTY REVIEW OR VERIFICATION FOR THE UNDERLYING AVOIDED EMISSIONS CLAIMS.