



ROASTING THE PLANET

BIG MEAT AND DAIRY'S BIG EMISSIONS

—EXECUTIVE SUMMARY—

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EXECUTIVE SUMMARY

This report presents the latest global assessment of the meat and dairy industry's outsized climate impactⁱ, estimating the greenhouse gas (GHG) emissions generated by 45 of the world's major meat and dairy processing companies in 2023/22ⁱⁱ. It reveals that:

- These 45 meat and dairy companies together emitted an estimated 1.02 billion tonnes CO₂eq of GHG emissions in 2023/22. If they were a country, they would be the world's ninth highest GHG-emitting nation. In fact, the companies' combined emissions are estimated to be more than those reported for Saudi Arabia, reportedly the second largest oil producer in the world.ⁱⁱⁱ
- The methane emissions from these 45 companies combined are estimated to be more than the reported methane of all the EU27 countries and UK combinedⁱⁱⁱ in 2023.
- The top five emitters combined—JBS, Marfrig, Tyson, Minerva and Cargill—emitted an estimated 480 MtCO₂eq of GHG emissions in 2023, more than reportedⁱⁱⁱ for Chevron, Shell or BP. The estimated emissions of these five companies combined account for nearly half (47%) of the estimated GHG emissions from the total of 45 meat and dairy companies analyzed.
- JBS, here estimated to be the world's highest-emitting meat corporation, alone accounts for nearly one quarter (24%) of all estimated GHG emissions from these 45 meat and dairy companies. Greenpeace Nordic has estimated in an earlier publication that JBS emits more methane than reported for ExxonMobil and Shell combined.

Key Terms

- CH₄** Methane, a greenhouse gas
- CO₂** Carbon dioxide, a greenhouse gas
- COP** Conference of the Parties—the annual United Nations climate change conference
- GHG** Greenhouse gas
- GWP** Global Warming Potential
- IPCC** Intergovernmental Panel on Climate Change
- MtCO₂eq** Million tonnes of carbon dioxide equivalent
- N₂O** Nitrous Oxide, a greenhouse gas

i Unless otherwise stated, the key emissions estimates provided in this report are based on a dataset and analysis commissioned from not-for-profit research firm Profundo. See Annex 2: Methodology in the [full report](#) for more information and access to the dataset.

ii The scope of research was 45 major processors of beef (12), pork (15), chicken (15) and milk (15)—see Annex 2: Methodology in the [full report](#) for more info on company selection. 2023 data was used for the number of animals processed for beef, pork and chicken. 2022 data on milk intake was used for dairy companies as 2023 data wasn't available at the time of analysis.

iii The comparisons with reported emissions for countries and fossil fuel companies in this report are indicative only, as these emissions are calculated using different methodologies. See Annex 2: Methodology in the [full report](#) for more details.



Thousands of chickens packed together at a factory farm in Switzerland. Photo: © Greenpeace

This analysis shows Big Meat and Dairy's colossal, yet often overlooked, climate footprint, which makes it one of the world's highest-emitting sectors. The global livestock sector is already estimated to be responsible for between 12% and 19% of total human-caused GHG emissions. Two new studies this year warn that the Paris Agreement limit of 1.5°C might be breached earlier than previously thought. Alongside action on fossil fuels, reduction in livestock emissions is essential to limit global heating, at a time when every fraction of a degree counts.

Rapid and ambitious methane cuts—including from livestock—offer a critical climate “emergency brake” that is urgently needed in the short-term. That’s because methane is a powerful but short-lived gas compared to carbon dioxide. But there needs to be a rapid response: global methane emissions must drop by 40 – 45% by 2030 to affordably achieve the Paris Agreement’s target of limiting global temperature rise to 1.5°C, according to the UN Environment Program.

The new data estimates show **a small number of meat and dairy giants are responsible for a disproportionately large share of the emissions**. But industrial meat and dairy companies are highly resistant to systemic change, reportedly spending hundreds of millions of dollars lobbying against meaningful action to prevent climate change around the world and promote false climate solutions. These false solutions include limited technology-based fixes like biogas and feed additives and pushing for the misuse of GWP* as a metric to distort and greenwash methane’s heating impact. These false solutions are used by the meat and dairy giants as justification against reducing livestock numbers. In fact, companies like JBS have big plans to rapidly expand further, gunning for a 70% increase in global animal protein consumption by 2050.

An estimated 83% of global meat production and 77% of global meat consumption occurs in high and upper-middle income countries, while just 2% of meat production and consumption occurs in low-income countries, according to a recent research paper. However, the impacts of the climate crisis are disproportionately experienced by the world’s lowest-income people. Climate justice therefore demands that a just transition to lower livestock production be focused in high and upper-middle income countries, and new policies help reduce overconsumption in high and middle-income populations.



Aerial view of an industrial cattle feedlot, Alberta, Canada. Photo: © Russ Heintz / Shutterstock.com

One of the biggest challenges in holding Big Meat and Dairy companies accountable for their impact on rising global temperatures—and the associated extreme weather and human suffering—is the significant lack of transparency and robustness when it comes to corporate GHG emissions reporting. While the damning emissions estimates in this report are based on the best publicly available data, they cannot be fully comprehensive due to the scarcity of publicly published, company specific production data.

Big Meat and Dairy companies—profiting from the status quo—are unlikely to reveal the scale of their environmental impact, or to become more transparent, until they are required to do so.

The research presented here demonstrates the need for Big Meat and Dairy companies to urgently reduce livestock numbers to limit global heating. This report outlines a comprehensive roadmap for change for policymakers, including mandatory emissions reporting; strategies to eliminate overproduction and overconsumption of animal products; binding reduction targets for agricultural emissions; and policies to support a just transition to nature restoration and agriculture systems rooted in agroecology, more plant-based food production, and food sovereignty principles.

Every fraction of a degree matters to limit the worst impacts of climate change and avoid disastrous tipping points. This is a global emergency and bold, decisive action is needed. Governments must apply the brakes on global warming by taking on the power of the global meat and dairy industry. Our future depends on it.

EVERY FRACTION OF A DEGREE MATTERS...

For a full version of the report, visit <https://foodrise.org.uk/RoastingThePlanet>