



Testimony for the Record
Environmental Working Group
House Committee on Agriculture
on
Sustainability in the Livestock Sector
February 3, 2022

Unless we reduce greenhouse gas emissions from the livestock sector, we will not avoid the worst consequences of the climate crisis.

Agriculture is a significant – and growing source – of greenhouse gas emissions. The Environmental Protection Agency estimates that agriculture accounts for [10 percent](#) of greenhouse gas emissions,¹ and the production of meat and dairy products accounts for most of [those emissions](#). Livestock generate greenhouse gas emissions in three ways: nitrous oxide emissions caused by fertilizing animal feed and their [waste](#); carbon dioxide emissions caused by plowing up land to produce [animal feed](#); and [methane emissions](#) from farm animals and their waste. Nitrous oxide emissions from agriculture – which are [300 times more powerful](#) than carbon dioxide emissions – account for [75 percent](#) of U.S. nitrous oxide emissions. Methane emissions from agriculture – which are [80 times](#) more powerful than carbon dioxide emissions – account for [at least 36 percent](#) of U.S. methane emissions.²

Livestock production also results in a web of public health impacts ranging from cancer to air pollution to the contamination of drinking water supplies. Farm pollution containing animal wastes, [pathogens](#) and excess nutrients can wash off farm fields into [drinking water](#) supplies. High levels of nitrate in drinking water have been linked to [certain cancers](#), and the [byproducts of chemicals](#) added to drinking water to address animal waste and other organic matter in water supplies

¹This estimate excludes sources of emissions that may be counted in other categories, such as fuel and electricity, as well as fertilizer production, food waste, land conversion, and other additional sources. See <https://earthjustice.org/from-the-experts/2022-january/farming-for-our-future-climate-change-agriculture>

² [Global estimates](#) put anthropogenic emissions from agriculture on par with methane emissions from fossil fuels. These emissions may be greater than previously estimated by 39 to 90 percent. See Miller, et. al, *Anthropogenic emissions of methane in the United States*, Proceedings of the National Academy of Sciences Dec 2013, 110 (50) 20018-20022; <https://www.pnas.org/content/110/50/20018> and see Hayek and Miller, *Underestimates of methane from intensively raised animals could undermine goals of sustainable development*, Environmental Research Letters, June 2021, available at <https://iopscience.iop.org/article/10.1088/1748-9326/ac02ef>



have also been linked to cancer. Pathogens in water contaminated from animal runoff can cause [gastrointestinal illness](#) and death.³

Air pollution caused by meat production annually leads to [more than 12,000](#) premature deaths – more than coal-fired power plants. Meat production [increases emissions](#) of ammonia and particulate matter. The nutrients in animal waste and the fertilizer used to grow animal feed also fuel the growth of [toxic algae](#) blooms. In Western states, [almost 60 percent](#) of our freshwater is used to irrigate animal feed.

Voluntary conservation practices are an important part of the solution to the challenges posed by livestock production, but incentives alone will not do enough to address greenhouse gas emissions and other environmental impacts. In the [best-case scenario](#), in which all farmers adopt all the best practices, emissions of nitrous oxide and methane could be reduced.⁴ But even in this highly unlikely scenario, expected increases in demand for animal protein will [offset expected environmental gains](#).

Voluntary efforts to reduce emissions have failed so far to make significant progress, since practices are often abandoned when conservation [contracts expire](#); farmers offering to reduce emissions are frequently [turned away](#) due to lack of funds; and industry-led initiatives often fail to deliver promised results.⁵

If, as [expected](#), global protein demand doubles, and most of that demand is met by animal proteins, incentives alone will not suffice to change the trajectory of greenhouse emissions caused by livestock production. Animal protein production in the U.S. has [increased](#) by 8 percent since 1970 and is expected to [increase](#) through 2031. Although incentives and current technologies could temporarily reduce methane emissions from farm animals, expected increases in demand for animal protein will more than [offset those gains](#).

True sustainability in the livestock sector requires confronting, and recognizing, the hard truth that there cannot be infinite growth. The more the livestock sector grows, the worse it will be for the climate, water quality, and public health. We must change how we raise livestock. But to avoid the worst effects of the climate crisis, we must

³ A recent EWG and Clean Wisconsin [analysis](#) found direct medical costs for nitrate contamination of Wisconsin's drinking water range from \$23 million to \$80 million per year.

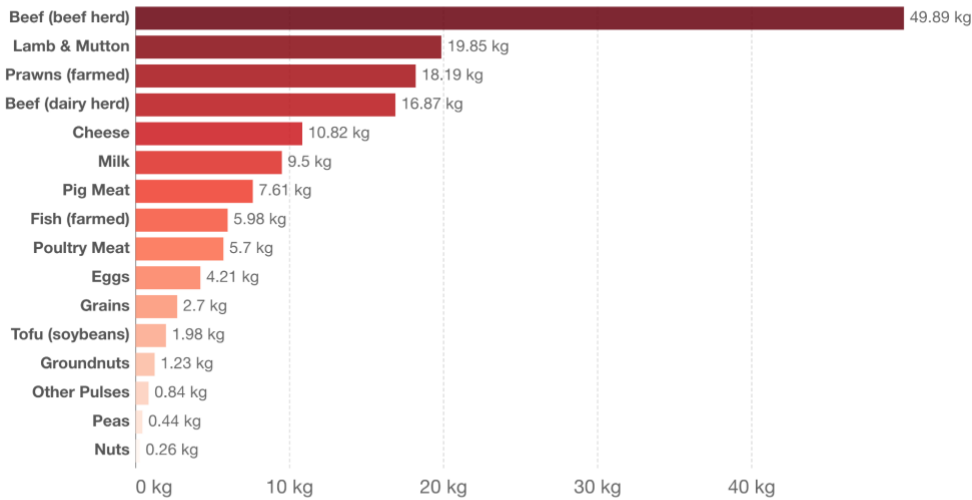
⁴ The [Breakthrough Institute](#) found that existing technology would only reduce emissions from cattle by 18 percent.

⁵ In 2009, dairy companies reached a [voluntary agreement](#) to reduce methane emissions 25 percent by 2020. Instead, methane emissions increased. Other emissions reduction pledges are either [unenforceable](#), vague, or have [failed](#).

also scale up the production of and demand for animal protein alternatives like plant-based, fermented, and cultivated proteins. The crops used to produce alternative proteins – such as soybeans, wheat, peas, mushrooms, lentils, beans, and others – can require [less nitrogen fertilizer](#), less [land](#), and less [water](#). And they do not produce [animal waste](#) or methane.

Greenhouse gas emissions per 100 grams of protein

Greenhouse gas emissions are measured in kilograms of carbon dioxide equivalents (kgCO₂eq) per 100 grams of protein. This means non-CO₂ greenhouse gases are included and weighted by their relative warming impact.



Source: Poore, J., & Nemecek, T. (2018). Additional calculations by Our World in Data.
Note: Data represents the global average greenhouse gas emissions of food products based on a large meta-analysis of food production covering 38,700 commercially viable farms in 119 countries.
OurWorldInData.org/environmental-impacts-of-food • CC BY

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Shifting some of the expected demand for animal proteins to alternative proteins will also help preserve the use of life-saving antibiotics and reduce foodborne illness. The overuse of life-saving antibiotics to protect animals in crowded factory farms makes bacteria more resistant. More than [35,000 Americans die](#) annually from antibiotic-resistant bacterial infections. About 80 percent of antibiotics are used for animal production, and about 70 percent of these are [medically important](#) for humans. Consuming meat, poultry, and dairy accounts for [nearly half](#) of the deaths and illnesses caused by foodborne pathogens like E. coli and salmonella. Produce irrigated with water contaminated by livestock fecal matter accounts for much of the remaining death and illness caused by contaminants in food.

⁶ Poore & Nemecek, *Reducing food's environmental impacts through producers and consumers*, Science, available at <https://www.science.org/doi/10.1126/science.aag0216>



Investments in alternatives like plant-based proteins will also support farmers and create jobs. Plant-based food production already supports over [55,600 jobs](#) in the U.S.⁷ and could support [200,000 more jobs](#) by 2030. Failure to invest in alternative proteins will cause the U.S. to fall behind global competitors – as has been the case in the [wind](#) and [solar](#) industries. Unlike the government of the U.S., those of [Canada](#), [Israel](#), [Denmark](#), [Sweden](#), [Singapore](#), the [Netherlands](#), [Qatar](#), [Australia](#), the [EU](#) and the [U.K.](#) are making significant investments in the development of alternative proteins. China has already made significant investments to capture large shares of the global soy protein ingredient industry and is investing in cultivated agriculture, as well as plant-based companies, as part of its [five-year agricultural plan](#).

Our food and farm policies require significant reform if we hope to avoid the worst consequences of climate change. Due to misplaced priorities, thousands of farmers are turned away by USDA when they offer to share the cost of practices proven to reduce greenhouse gas emissions. This is the result of five policy failures: Too much farm spending flows in the form of farm subsidies to the largest and most successful [farm businesses](#); these subsidies favor crop choices and practices that increase nitrous oxide emissions and encourage farmers to cultivate environmentally sensitive lands; too little spending flows to voluntary farm stewardship programs; misplaced priorities within stewardship programs favor practices with [few environmental benefits](#); and there is too much spending in support of animal proteins and too little spending in support of plant-based and other protein alternatives.

House leaders sought to address these misplaced priorities by including \$27 billion in the Build Back Better Act for conservation practices that reduce greenhouse gas emissions. This investment – the largest investment in conservation spending since the Dust Bowl – is historic for both size and commitment to practices that reduce emissions. But Congress must go further by reforming our subsidy programs to encourage crop choices and practices that require less nitrogen fertilizer, by expanding and reforming our conservation programs to support practices that reduce greenhouse gas emissions, and by investing in alternatives to animal proteins.

Supporting farmers who offer to share the cost of practices that reduce greenhouse gas emissions, supporting companies seeking to scale up alternatives to animal proteins, and supporting consumers shifting to a diet like the Mediterranean diet or planetary health diet is essential if we hope to avoid the [worst impacts of climate](#)

⁷ This includes the fact that average salaries for plant-based foods are more than \$12,000 higher than the national average.



[change](#). Any delay will require future actions to be even more ambitious – and drastic.

Even if we stopped burning fossil fuels today, [greenhouse gas emissions from food and farming](#) could make a climate catastrophe unavoidable. Farmers are already bearing the [brunt of the extreme weather](#) caused by climate change. But the devastating economic impacts of the climate crisis are not the only reason for farmers to act: As emissions from energy and transportation [continue to fall](#), and emissions from fertilizer and animals grow due to rising protein demand, agriculture’s [contribution](#) to the climate crisis will steadily increase.⁸ By 2050, greenhouse gas emissions from [animals and the production of their feed](#) could easily account for one-third of U.S. emissions.

Submitted on behalf of the Environmental Working Group,

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⁸ Total methane emissions have decreased 18 percent since 1990, methane emissions from agriculture have increased by 16 percent.