

Twenty percent of Americans responsible for nearly half of US food-related greenhouse gas emissions

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Diego Rose, principal investigator on the study and a professor of nutrition and food security at Tulane University School of Public Health and Tropical Medicine. Photo by Paula Burch-Celentano.

On any given day, 20 percent of Americans account for nearly half of U.S. diet-related greenhouse gas emissions. High levels of beef consumption are largely responsible for this, according to [a new study published in the journal *Environmental Research Letters*](#) by researchers at Tulane University and the University of Michigan.

To estimate the impact of diet on emissions, researchers determined the environmental impacts involved in producing more than 300 types of foods. Then they linked this database to results of a one-day dietary survey involving more than 16,000 American adults.

They ranked the diets by their associated greenhouse gas emissions, from lowest to highest, then divided them into five equal groups. The researchers found that the 20 percent of U.S. diets with the highest carbon footprint accounted for 46 percent of total diet-related greenhouse emissions.

If Americans in the highest-impact group shifted their diets to align with the average U.S. diet, the one-day greenhouse-gas emissions reduction would be equivalent to eliminating 661 million passenger-vehicle miles.

The highest-impact group was responsible for about eight times more emissions than the lowest-impact of diets. And beef consumption accounted for 72 percent of the emissions difference between the highest and lowest groups.

“This study is the first in the United States to look at self-reported dietary choices of a nationally representative sample of thousands of Americans,” said Diego Rose, principal investigator on the project and a professor of nutrition and food security at Tulane University School of Public Health and Tropical Medicine.

If Americans in the highest-impact group shifted their diets to align with the average U.S. diet—by consuming fewer overall calories and relying less on meat—the one-day greenhouse-gas emissions reduction would be equivalent to eliminating 661 million passenger-vehicle miles, according to the researchers.

If implemented every day and accompanied by equivalent shifts in domestic food production, such diet changes would achieve nearly 10 percent of the emissions reductions needed for the United States to meet its targets under the Paris climate accord.

Emissions related to the processing, packaging, distribution, refrigeration and cooking of foods were not part of the study but would likely increase total emissions by 30 percent or more, said first author Martin Heller, the co-principal investigator from the University of Michigan.

“Reducing the impact of our diets—by eating fewer calories and less animal-based foods—could achieve significant reductions in greenhouse gas emissions in the United States. It’s climate action that is accessible to everyone, because we all decide on a daily basis what we eat,” Heller said.