

Meat is horrible

By [Rachel Premack](#) June 30



(Washington Post illustration; iStockphoto)

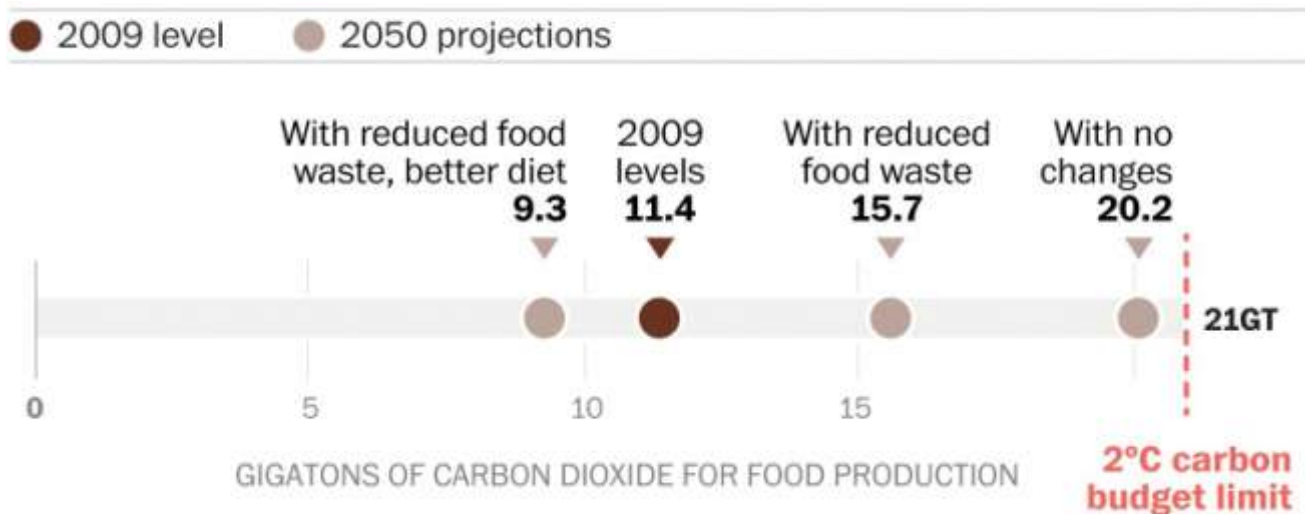
It may be delicious, but the evidence is accumulating that meat, particularly red meat, is just a disaster for the environment — and not so great for human beings, too.

By 2050, [scientists forecast](#) that emissions from agriculture alone will account for how much carbon dioxide the world can use to avoid catastrophic global warming. It already accounts for [one-third](#) of emissions today — and half of that comes from [livestock](#). That's a driving reason why members of a United Nations panel last month urged its environmental assembly to consider recommending a tax on meat producers and sellers. By raising the cost of buying meat, it would ultimately aim to reduce production and demand for it.

This graph shows agriculture alone would eat up the world's carbon dioxide budget in 2050, unless we make changes.

Food production alone could comprise the world's entire carbon budget in 2050

The budget allows for a warming of two degrees Celsius, which scientists predict would lead to substantial but not calamitous effects. Better diet and waste disposal would allow more for other emissions.



Source: Bajzelj et al.

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Maarten Hajer, professor at the Netherlands's Utrecht University, led the environment and food report that recommended the meat tax.

“All of the harmful effects on the environment and on health needs to be priced into food products,” said Hajer, who is a member of U.N.’s International Resource Panel, which comprises 34 top scientists and 30 governments. “I think it is extremely urgent.”

But, he added, “Food is very political.”

In countries where meat is a cultural mainstay and income inequality already breeds a lack of food access, it could be a difficult argument. Taxing sugary drinks [this month](#) in Philadelphia caused an uproar among lobbyists, some groups representing the poor and even Bernie Sanders, who argued that the tax was regressive. The response to limiting meat, which [is certainly more beneficial](#) to a diet than soda pop, could be mutinous.

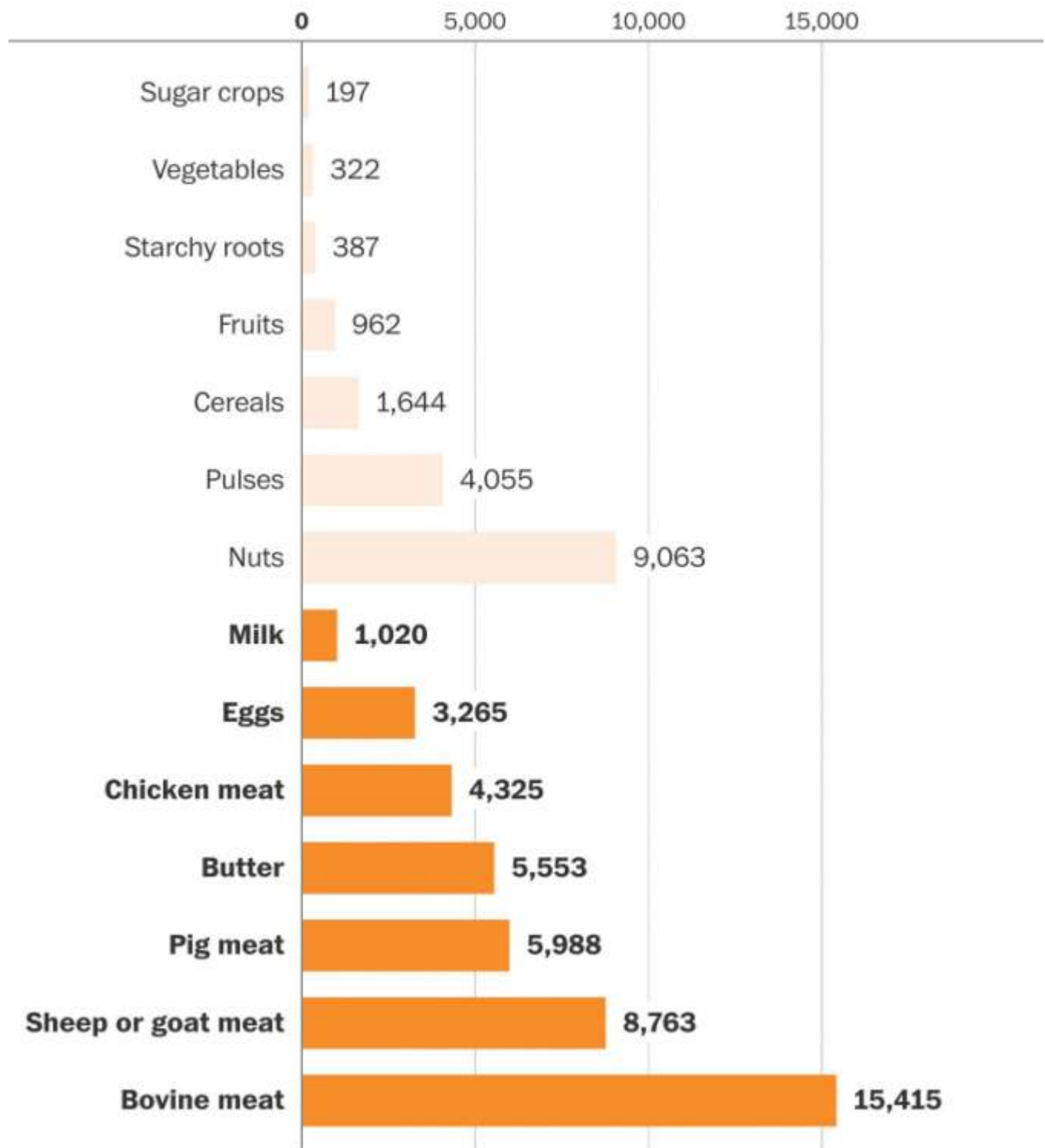
But, governments must soon move to limit major carbon producers, Hajer said. Food companies will naturally be part of that.

The idea of a meat tax has developed over the past 25 years as a “completely obvious” measure to economists and environmentalists, Hajer said, as knowledge of the environmental toll of meat emerged.

Agriculture consumes 80 percent of water in the United States. These two charts show that meat is particularly thirsty. For a kilogram of red meat, you need considerably more water than for plant products.

You need 48 times as many liters of water to produce the same amount of beef as veggies

The graph below shows the average amount of water in liters used to produce a kilogram of crop and animal products.

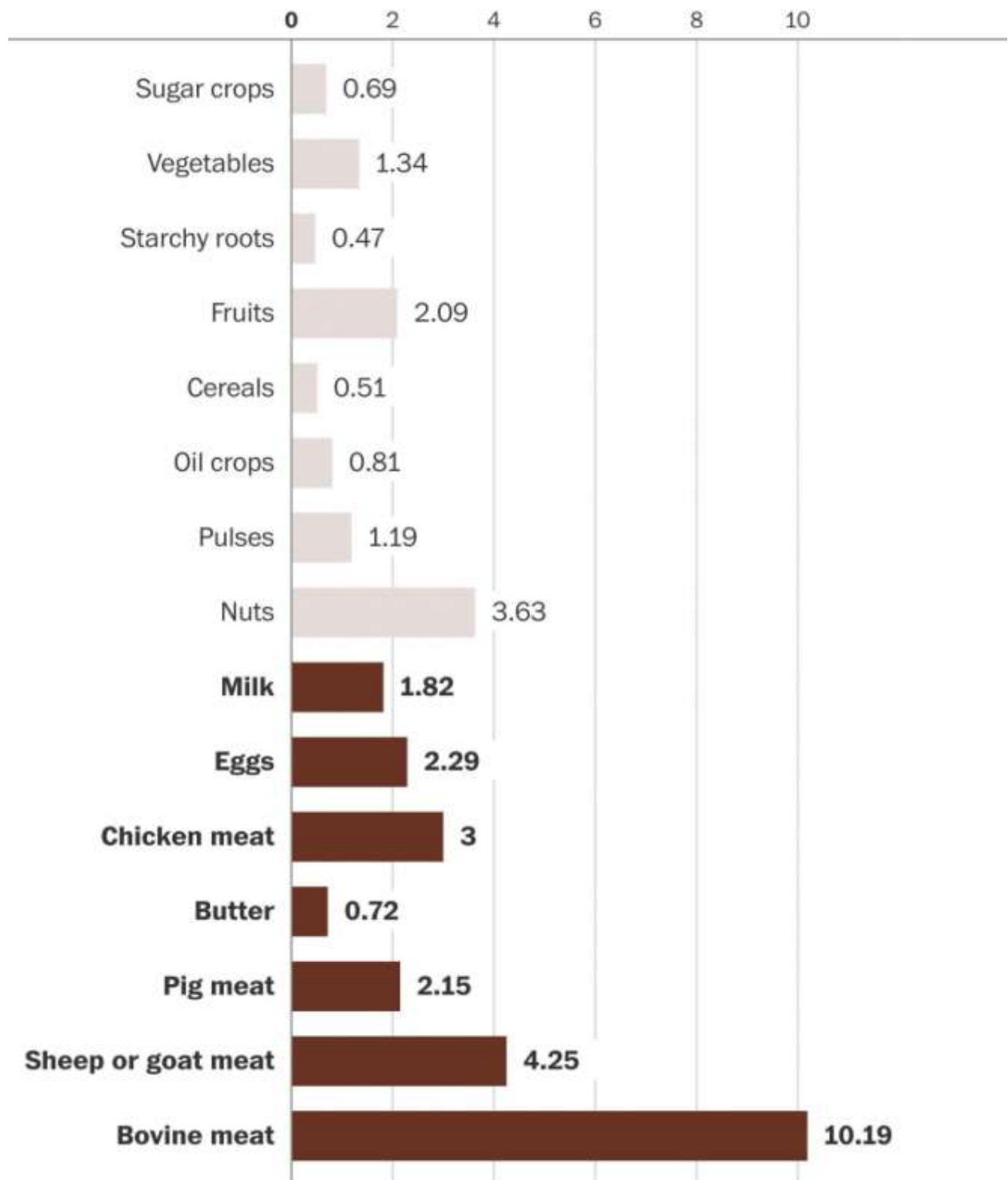


Source: Hoekstra (2012)

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Animals tend to require a lot more water per calorie, too

The graph below shows how many liters of water are needed to produce a kilo-calorie of a certain type of food. Save for nuts, every plant-based product requires less water than meat to produce a calorie of food.



Source: Hoekstra (2012)

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Governments are starting to take notice. China, which consumes half of the world's pork and more than a quarter of its overall meat, announced new dietary guidelines [last week](#) that advises the average citizen to reduce their meat consumption by one-half. That country's meat consumption has increased by nearly five-fold since 1982, even though their population has only increased by 30 percent during that time.

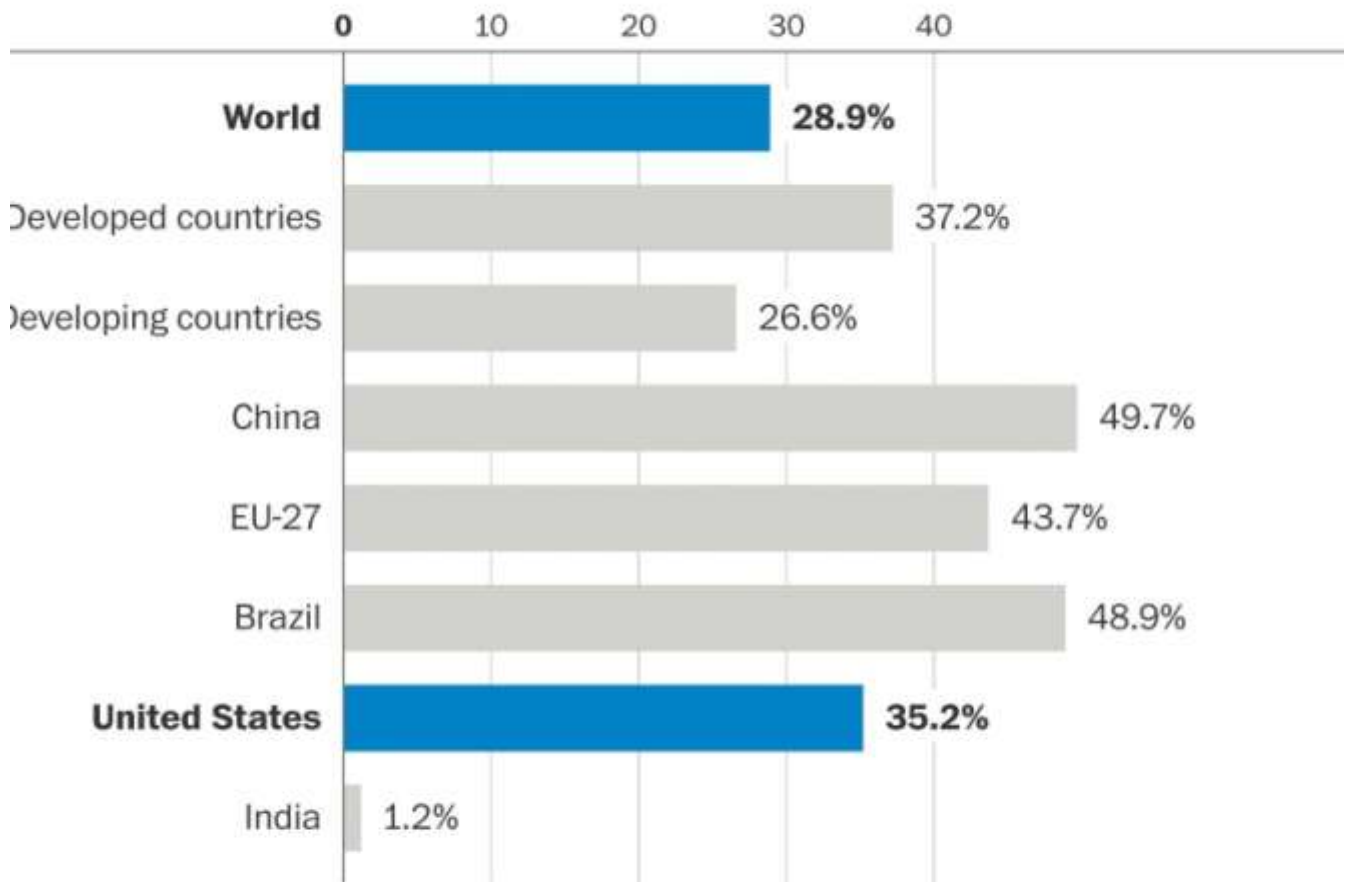
Denmark went a little further [in May](#). The Danish government is considering a recommendation from its ethics council that all red meats should be taxed. Red meat accounts for 10 percent of all greenhouse gas emissions, and the council argued that Danes were "ethically obliged" to reduce their consumption.

"For a response to climate-damaging food to be effective, while also contributing to raise awareness of the challenge of climate change, it must be shared," council spokesman Mickey Gjerris said [last month](#).

This graph shows that phasing out meat and simply eating less would knock down agricultural carbon dioxide emissions considerably — particularly in developed, meat-loving countries.

If everyone consumed a sustainable diet, we would reduce food-related CO2 emissions by almost one-third

Global adoption of a sustainable diet would reduce food-related carbon emissions by 29 percent, using 2050 estimates.



The dietary guidelines are based on recommendations by the Food and Agriculture Organization of the United Nations, World Health Organization and World Cancer Research Fund. It allows no more than 0.6 pounds of red meat per week, 50 grams per day of sugar and 2,300 calories per day.

Source: Springmann et al.

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Laura Wellesley, a research associate at international policy institute Chatham House, said she thinks a global tax could be achieved in the next 20 years. She has studied attitudes about meat consumption among the four most carnivorous countries: China; the United States; Britain and Brazil.

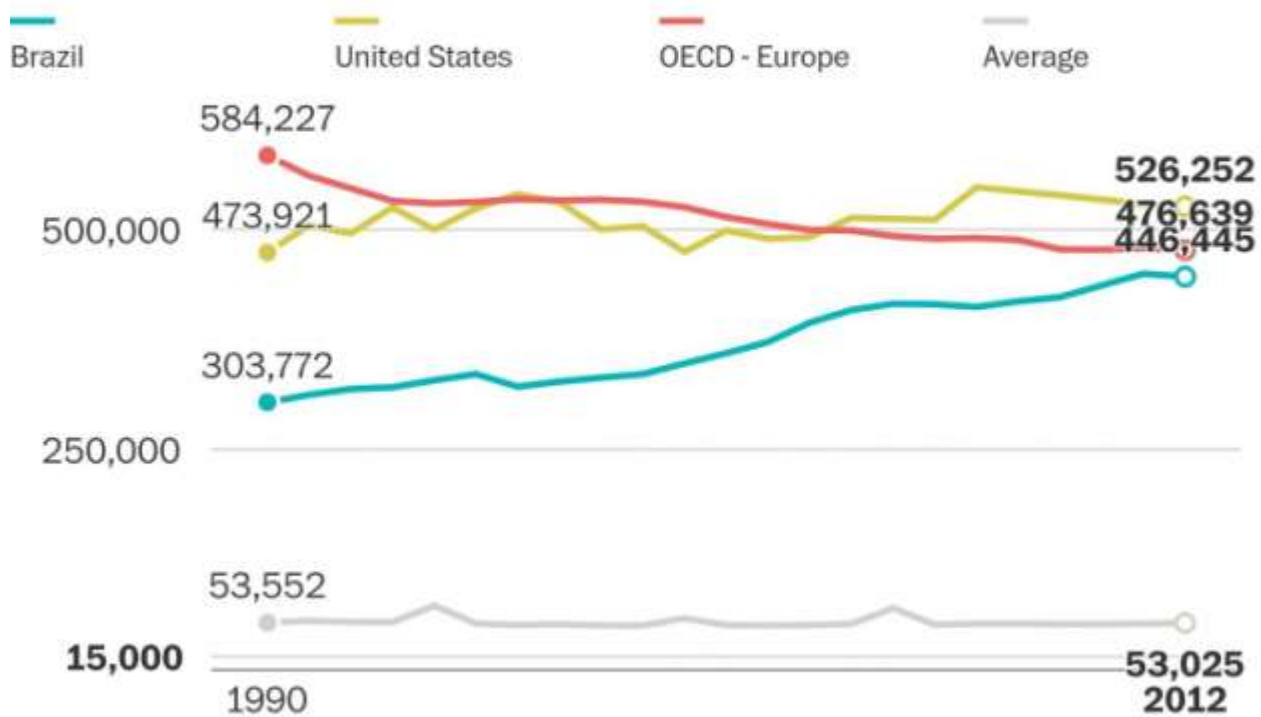
Countries such as the Czech Republic and Poland have dramatically reduced their agricultural carbon output, as much as a half. But countries that are expanding their meat-lovers' impulses are doing so at much larger jumps. Brazil's carbon output from food production has

increased by 47 percent from 2000 to 2012 — that’s an increase of 150 million tons of carbon dioxide. In China, a 35-percent jump from 1994 to 2005 means 220 million more tons of carbon dioxide. So, Estonia’s 58-percent cut from 2000 to 2012, while commendable, is less than 2,000 tons.

This chart shows how agricultural carbon dioxide output has, on the whole, hardly decreased since 1990. Despite growing awareness of the need to reduce greenhouse gas emissions, food and meat production is typically not targeted by civilians and governments as a way to whittle global warming.

On average, carbon dioxide agricultural emissions among major economies have decreased minimally

The most recent data from the Organization for Economic Co-operation and Development reflects that carbon dioxide output OECD countries and non-member economies, like China and Brazil, have decreased by 1 percent, on average.



Output is measured in tons of carbon dioxide equivalent in thousands

Source: OECD

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Much of that is meat production, which contributes an estimated 14.5 percent to annual greenhouse gas emissions. That's more than emissions from every car, train, ship and

airplane combined. Of that, 65 percent is enteric fermentation (or, cow, sheep and goat farting) and manure, according to a 2014 Chatham House analysis. Feed constitutes one-fifth of that, followed by land-use change, energy use and post-farm activities.

The methane produced by cattle digestion alone is what leads many researchers to call for their reduction, rather than poultry or pigs. Following carbon dioxide, methane is the second most prevalent greenhouse gas in the United States. A third of that overall is from cattle digestive processes.

On the whole, pigs and poultry contribute 10 percent of total livestock emissions. The rest is cattle, buffalo, sheep and goats — but mostly cows.

There are loads of countries with malnutrition, as opposed to America's obesity problem. But Wellesley said reducing meat consumption was equally important to boosting meat access to the world's poorest in ensuring Earth is sustainable for human habitation.

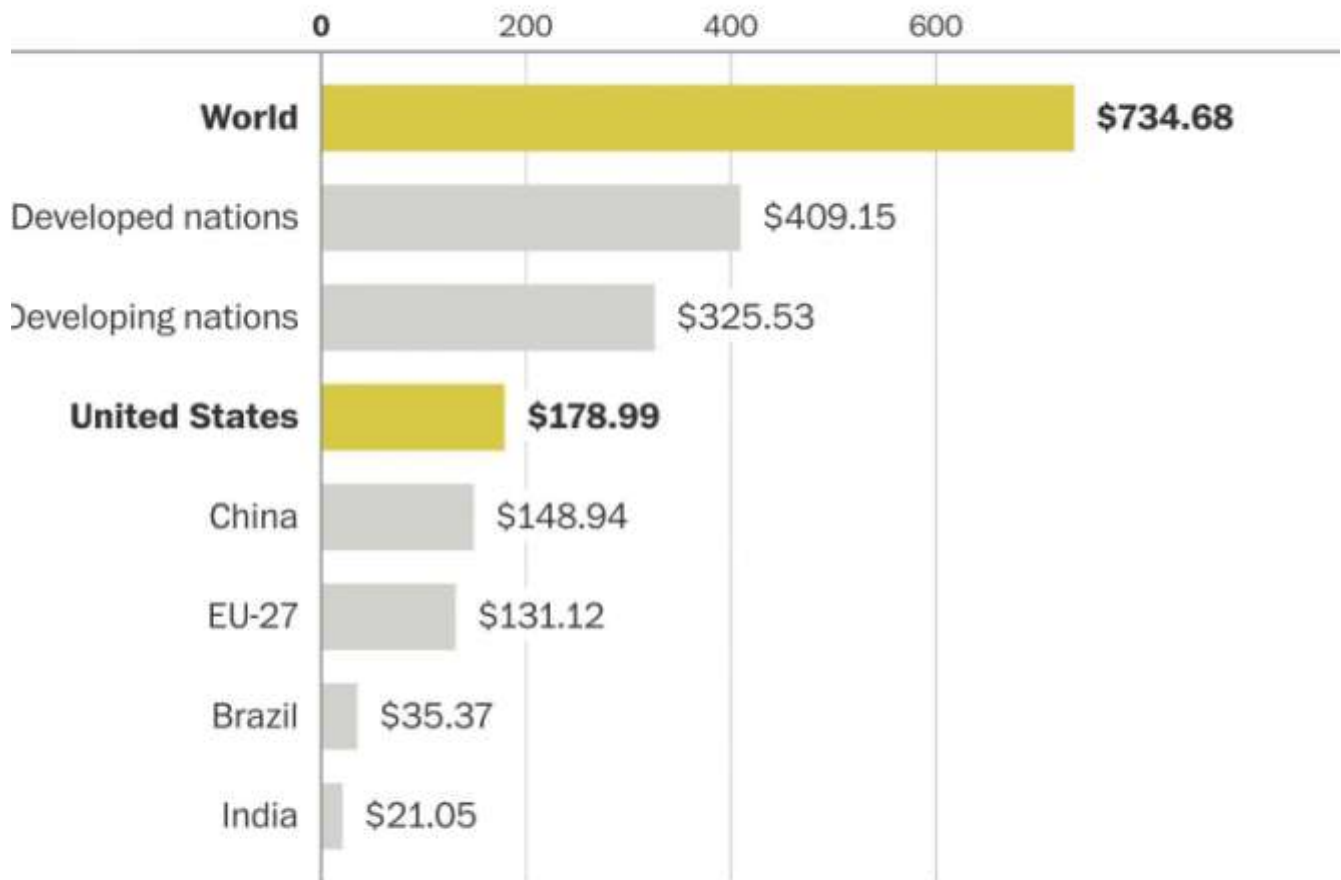
Further, a meat tax could help establish healthy, flexitarian diets that could be consumed by everyone. In the United States and Britain, people eat three to four times the healthy level for meat. Americans ate 120 pounds of meat [in 2009](#), compared with four pounds in Bangladesh. We could be in trouble if those in populous, economic centers, such as China and Brazil, act like the West. China is a "grave concern" to experts, Hajer said.

Along with a tax, a meat cutback could be achieved by making plant-based diets more appealing and less expensive. People in the West often think that vegetarianism is a diet for wealthier folks, Wellesley said.

This chart shows the considerable health benefits that could be reaped from reducing meat consumption as part of a more nutritious diet. The United States could slash its health-care spending the most by phasing out meat for vegetables.

The world could save a collective \$730 billion in health care by reducing meat consumption

Research from the University of Oxford estimates that billions of dollars could be saved if people cut down to expert-recommended dietary guidelines.



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Source: Springmann et al.

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But until tariffs are levied, experts worry about how to make people realize that meat is harmful for the environment. Wellesley said people globally are more apt to wring their hands over cranking the air conditioner. That cheeseburger is largely seen as disastrous to heart health or their thighs, not global warming.

“Government is wary of introducing taxes on food products,” Wellesley said. “Civil society and industry may say the tax would harm or limit the poorer members of society. Those concerns were raised in the focus group.”



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