

## Executive Summary

Food production is among the leading sources of the greenhouse gas emissions that cause global warming. Food production generates up to 30% of total global emissions<sup>1,2</sup> and is also a significant contributor to biodiversity loss, deforestation, freshwater use, and land use change.<sup>3</sup> The production of livestock generates the highest levels of greenhouse gas emissions, whereas the production of fruit and vegetables generates the lowest levels.<sup>4</sup> Globally, changes to food production and consumption, including reducing food waste and shifting to a more plant-based diet,<sup>5</sup> are critical to reducing global warming and other environmental impacts.<sup>3</sup>

### **Although a majority of Americans do not consider themselves to be vegetarians or vegans, most Americans are willing to eat more plant-based foods, and more than half are willing to eat less red meat.**

- While only 4% of Americans say they are either vegan (1%) or vegetarian (3%), the vast majority (94%) say they are willing to eat more fruit and vegetables, with six in ten (62%) saying they are "very" willing.
- More than half of Americans (55%) say they are willing to eat more plant-based meat alternatives (products made with vegetables such as soy, potatoes, peas, etc.). About the same percentage (54%) say they are willing to eat less red meat (beef, lamb, pork). Nearly half (46%) say they are willing to use dairy alternatives (soy milk, almond milk, etc.) instead of dairy-based milk or cream. One in four Americans (26%) say they are willing to eat lab-grown meat rather than meat from animals.
- One in five Americans use plant-based dairy alternatives either about two to five times per week (10%) or more often (10%). About one in ten eat plant-based meat alternatives about two to five times per week (6%) or more often (3%).

### **Cost, taste, and convenience can be motivators or barriers to purchasing or eating plant-based foods.**

- About half of Americans (49%) think a meal with a plant-based main course (fruit, vegetables, meat/dairy alternatives) is more expensive than a meat-based main course (beef, chicken, fish, etc.), while fewer think a plant-based main course is less expensive (14%).
- More than half of Americans (58%) say that it costs too much to buy plant-based foods, but 63% say they would be willing to eat more plant-based foods instead of meat if plant-based foods cost less than meat options.
- More than four in ten Americans (44%) say they don't like the taste of plant-based foods. However, two in three (67%) say they would be willing to eat more plant-based foods instead of meat if plant-based foods tasted better than they do today.
- About three out of four Americans (77%) say that ease and speed of preparation is at least "moderately" important to them when choosing to purchase or eat plant-based foods, and 44% say it's too much of an effort to buy plant-based foods.
- Nearly two-thirds of Americans (64%) say nobody has ever asked them to eat more plant-based foods. About half (51%) say they would be willing to eat more plant-based foods if they had more information about the environmental impact of different products and/or foods, and/or if their family and friends ate more plant-based foods instead of meat (50%).

**Health is the top motivation for purchasing or eating plant-based foods, and a majority of Americans say environmental impacts are personally important.**

- When asked about reasons (i.e., motivations) for purchasing or eating plant-based foods (fruit, vegetables, meat/dairy alternatives), majorities of Americans say the following are at least "moderately" important to them: their health (91%), how food companies affect the environment (71%), and/or helping to reduce global warming (64%).
- About one in four Americans (27%) say they have rewarded food companies that are taking steps to reduce their impact on the environment by buying their products at least once in the last 12 months.
- About one in five Americans (21%) say they have punished food companies that are not taking steps to reduce their impact on the environment by not buying their products over the last 12 months.

**Lower-income Americans are more likely than middle- and higher-income Americans to say they lack access to nearby grocery stores and/or fresh produce.**

- Lower-income Americans (households earning less than \$50,000 annually) are more likely to say they lack access to a nearby grocery store/market (20%) compared to middle- (11%) and higher-income (9%) Americans.
- About one in seven lower-income Americans (14%) say they lack access to fresh produce (fruit, vegetables) compared to 6% of middle- and 6% of higher-income Americans. More than half of lower-income Americans (53%) say it is too much of an effort to buy plant-based foods (vs. 45% of middle- and 37% of higher-income Americans), and 71% say it costs too much to buy plant-based foods (vs. 59% of middle- and 46% of higher-income Americans).

**Although most Americans think that the production of meat contributes at least "a little" to global warming, many do not make the connection between food and global warming.**

- More than half of Americans think that the production of beef, pork, dairy, and/or poultry contribute to global warming at least "a little," but only about one in four Americans (27%) think that beef contributes "a lot." Fewer Americans think the production of dairy (17%) contributes "a lot" to global warming. More than four in ten Americans think that beef does not contribute to global warming at all (23%) or do not know (20%). Similarly, 23% think that dairy products do not contribute to global warming at all and 23% do not know.
- Although most Americans think that if everyone ate a more plant-based diet it would reduce global warming at least "a little," more than four in ten Americans say it would not reduce global warming at all (23%) or do not know (19%).
- Three in ten Americans say they hear about the impact of food choices on global warming in the media either "at least once a month" (16%) or "at least once a week" (13%), while four in ten say they hear about it "once a year or less often" (11%) or "never" (29%).
- Most Americans say they "rarely" or "never" look for information about the environmental impact of different products and/or foods (65%), or talk to family and friends about the environmental impact of different products and/or foods (70%).

**Although most Americans think reducing food waste and/or composting would reduce global warming at least "a little," many engage in food waste behavior, and most do not compost food waste.**

- More than six in ten Americans think that if everyone threw away less food and/or composted food waste, it would reduce global warming at least "a little."
- About three in four Americans throw out uneaten or spoiled food "sometimes" (42%), "often" (24%), or "always" (10%) because they no longer want it or it went bad, while only about one in four say they do so "rarely" (21%) or "never" (2%).
- A majority of Americans say they "rarely" (16%) or "never" (56%) compost food waste, while only about three in ten Americans compost food waste "sometimes" (14%), "often" (9%) or "always" (6%).

**Americans who are among the "Alarmed" or "Concerned" in [Global Warming's Six Americas](#)<sup>6</sup> are more willing than other Americans to adopt a more plant-based diet and engage in pro-climate food behaviors. The Alarmed are the most willing and most engaged.**

- More than six in ten of the Alarmed are willing to eat more plant-based meat alternatives (77% vs. 55% of the Concerned and 39% of all other Americans), eat less red meat (66% vs. 61% of the Concerned and 42% of all others), and/or use dairy alternatives instead of dairy-based milk or cream (63% vs. 47% of the Concerned and 33% of all others). About half of the Alarmed (49%) and Concerned (49%) are willing to eat less dairy (vs. 32% of all other Americans).
- More than half of the Alarmed look for information (57%) and/or talk to family and friends about the environmental impact of different products and/or foods (55%) at least "sometimes." In contrast, only 34% of the Concerned and 20% of all other Americans look for information about environmental impacts, and even fewer talk to family and friends about the issue at least "sometimes" (25% of the Concerned and 15% of all others).
- About half (52%) of the Alarmed have rewarded food companies that are taking steps to reduce their impact on the environment by buying their products at least once in the last year, compared to 22% of the Concerned and 13% of all other Americans.

<sup>1</sup>[https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc\\_wg3\\_ar5\\_chapter11.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter11.pdf)

<sup>2</sup>Vermeulen, S. J., Campbell, B. M., & Ingram, J. S. (2012). Climate change and food systems. *Annual Review of Environment and Resources*, 37, 195-222. doi: [10.1146/annurev-environ-020411-130608](https://doi.org/10.1146/annurev-environ-020411-130608)

<sup>3</sup>Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... & Jonell, M. (2019). Food in the Anthropocene: The EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447-492. doi: [10.1016/S0140-6736\(18\)31788-4](https://doi.org/10.1016/S0140-6736(18)31788-4)

<sup>4</sup>Poore, J., & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. *Science*, 360(6392), 987-992. doi: [10.1126/science.aag0216](https://doi.org/10.1126/science.aag0216)

<sup>5</sup><https://www.drawdown.org/solutions/food>

<sup>6</sup><https://climatecommunication.yale.edu/about/projects/global-warmings-six-americas/>