



UvA-DARE (Digital Academic Repository)

Food Matters: The Role of International (Marketing) Efforts in Addressing a Looming Climate Threat

Ruzeviciute, R.; Thuerridl, C.

DOI

[10.1177/1069031X231182257](https://doi.org/10.1177/1069031X231182257)

Publication date

2023

Document Version

Final published version

Published in

Journal of International Marketing

License

Article 25fa Dutch Copyright Act (<https://www.openaccess.nl/en/in-the-netherlands/you-share-we-take-care>)

[Link to publication](#)

Citation for published version (APA):

Ruzeviciute, R., & Thuerridl, C. (2023). Food Matters: The Role of International (Marketing) Efforts in Addressing a Looming Climate Threat. *Journal of International Marketing*, 31(3), 97-100. <https://doi.org/10.1177/1069031X231182257>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

UvA-DARE is a service provided by the library of the University of Amsterdam (<https://dare.uva.nl>)

Food Matters: The Role of International (Marketing) Efforts in Addressing a Looming Climate Threat

Journal of International Marketing
 2023, Vol. 31(3) 97-100
 © American Marketing Association 2023
 Article reuse guidelines:
sagepub.com/journals-permissions
 DOI: 10.1177/1069031X231182257
journals.sagepub.com/home/jig



Ruta Ruzeviciute and Carina Thürridl

The global food system (i.e., production, transport, processing, packaging, storage, retail, consumption, loss, and waste of food) is responsible for 34% of total greenhouse gas (GHG) emissions (Food and Agriculture Organization of the United Nations 2021). A significant proportion of these emissions (14.5%) are directly attributable to the production and consumption of meat (Stoll-Kleemann and Schmidt 2017) and the loss and waste of food (8%–10%, estimated by the Intergovernmental Panel on Climate Change [IPCC]). Many international organizations such as the IPCC or the European Commission (EC) thus agree that two effective demand-side ways to cut emissions from food are a collective shift toward more plant-based diets and global efforts to reduce food waste. Taken together, these two approaches could reduce the negative effects on global warming, such as a rise in temperatures, by an estimated 55%.

Food preferences are largely determined by socioeconomic factors, cultural practices, and social norms (Steenkamp 2019; Stoll-Kleemann and Schmidt 2017) and thus differ greatly across countries (Godfray et al. 2018). Similarly, while roughly 30%–40% of all food is lost or wasted in both the developed and developing world, the underlying causes are very different due to variances in infrastructure, shopping practices, and knowledge of and investment in proper food storage (Godfray et al. 2010). As a result, there is great potential for international marketers and policy makers to contribute to a shift toward more sustainable diets and a reduction of food waste, for example, through the effective design of interventions and behavior change campaigns that take into consideration the specific conditions of these local markets.

Research on the topic in the (international) marketing domain is scarce, however. A brief search in the relevant marketing journals (e.g., *Journal of Marketing*, *Journal of Marketing Research*, *Journal of Consumer Research*, *Journal of Consumer Psychology*), conducted in spring of 2023, identified eight articles on the topics of meat reduction, plant-based diets, and food waste, but no articles on these topics had been published in the *Journal of International Marketing*. Yet, understanding how changes in food consumption patterns can help buffer against the negative effects of climate change

requires a global lens, as food systems are interlinked and the negative effects of food systems on climate change and vice versa disproportionately affect non-Western countries (e.g., due to more extreme shifts in climate). In this commentary, we thus call for more research that addresses demand-side GHG emission mitigation strategies related to food—that is, the reduction of meat consumption and food waste—from an international marketing perspective.

Reduction of Meat Consumption

Activities related to meat consumption and production are estimated to account for 14.5% of all GHG emissions (Stoll-Kleemann and Schmidt 2017). These emissions are projected to increase by 32% until 2050 if current dietary habits continue (Tilman and Clark 2014). Beyond a direct emission-based contribution to climate change, meat consumption should also be considered from a disparity and resource wastefulness perspective. It is estimated that to create 1 calorie of beef, about 25 plant-based calories are required. This proportion is 1:15 and 1:9 for pork and chicken production, respectively (Yale Center for Business and the Environment 2016). The caloric loss resulting from current levels of excessive meat consumption is at odds with the increasing food insecurity in less developed regions and the need to support our growing global population.

Despite increasing awareness of the negative impact of meat consumption on climate change and resource wastefulness, global annual meat consumption continues to rise. Owing to a growing population, an increase in affluence, and a Westernization of dietary patterns, this increase is primarily driven by middle-income countries in Asia as well as Central and South America. Although meat consumption has been declining or at least stagnating in Europe and North America, consumption levels still remain fairly high (Godfray et al. 2018). To achieve a significant reduction in

Ruta Ruzeviciute is Assistant Professor of Marketing, University of Tennessee, Knoxville, USA (email: rruzevic@utk.edu). Carina Thürridl is Assistant Professor of Marketing, University of Amsterdam, The Netherlands (email: c.thuerridl@uva.nl).

GHG emissions related to meat consumption, we need to find ways to reverse the upward trend in Asia and Central/South America and simultaneously continue our efforts to further curb the demand for meat in the West by shifting consumers toward primarily plant-based diets (Tilman and Clark 2014). At the same time, we also need to increase the demand for and acceptance of low-GHG-emission alternative protein sources such as pulses, algae, insects, plant-based meat alternatives, and lab-cultivated meat (Onwezen et al. 2021).

Individual choices about the consumption of meat and meat alternatives (i.e., whether, how much, and what types to consume) are largely influenced by culture, religion, and social norms, and these factors differ greatly between countries and regions (Stoll-Kleemann and Schmidt 2017). A recent comprehensive literature review on meat reduction interventions found, however, that only 5% of all reviewed empirical studies on the topic addressed sociocultural factors, and only 4% were conducted in a non-Western context (Kwasny, Dobermig, and Riefler 2022). Furthermore, none of these papers were published in marketing journals. This lack of empirical research in our field provides excellent research opportunities for scholars aiming to publish in the international marketing domain.

For example, Stoll-Kleemann and Schmidt (2017) identified social norms and social identity as two relevant factors influencing individual meat-eating behavior. As a result, they propose the promotion of new social and cultural norms and lifestyles as one promising avenue to nudge individuals toward more plant-based lifestyles. Asian and Latin American consumers are known to be more collectively oriented than consumers in North America and Europe—and, as a result, more likely to be concerned with the adherence to social norms in an attempt to uphold their social standing—so this approach may be particularly effective in these cultures. A promising strategy for boosting the desirability of plant-based eating is the utilization of celebrity and influencer endorsements. Celebrity involvement in promoting plant-based diets, such as by investing in plant-based companies (e.g., investment in Beyond Meat by Leonardo DiCaprio or Snoop Dogg), advocating the cause (e.g., Beyoncé's 22-day vegan challenge), or spreading awareness (e.g., James Cameron's documentary *The Game Changers*), have contributed to the rise in popularity of vegan, vegetarian, and flexitarian lifestyles in the West (Flink 2023). Thus, it would be interesting to investigate whether and which celebrity/influencer endorsement strategies (e.g., local vs. world-renowned celebrities/influencers, awareness campaigns vs. celebrity advocacy, endorsements by "green-fluencers" vs. mainstream celebrities/influencers) work best in promoting plant-based eating in non-Western countries.

While it is becoming more normative in Western countries to consume more plant-based foods and substitute meat with plant-based alternatives, consumer acceptance of other alternative protein sources, such as lab-cultivated meat and insects, is still low compared with consumers in Asia. The low acceptance of these types of foods is primarily rooted in food neophobia and a lack of social norms around consuming such foods (Onwezen et al. 2021). It would therefore be interesting to study how Western consumers may overcome food neophobia,

particularly related to the consumption of insects and seaweed, two foods already included in Asian diets and have great potential to serve as an alternative protein source to meat.

Beyond efforts concentrating on understanding the psychology of behavioral change, more direct strategies, such as meat taxation, have been suggested recently (Toubia 2022). Taxation as an instrument to curb consumption has been used for categories such as tobacco, alcohol, and sugar. While taxing "high-emission foods" might be an effective strategy for certain consumer segments (e.g., wealthy consumers), it may create a larger nutrition-related disparity and thus backfire in the less affluent consumer groups or countries. Therefore, promotion-focused interventions like subsidies for animal protein alternatives might be a more effective solution for the latter.

Taken together, international marketing scholars should focus on identifying effective interventions that can change the cultural and social meaning of meat and that have the potential to create new social norms around dietary preferences, including the switch to fully plant-based, vegetarian, or flexitarian lifestyles as well as the adoption and acceptance of plant-based meat alternatives (e.g., Beyond Meat, Impossible Foods), lab-cultivated meats (e.g., Believer, Good Meat), and other low-GHG-emission protein alternatives (e.g., insects, seaweed). More research is also needed to understand whether and where recently proposed pricing policies, via added meat tax or subsidies for meat alternatives, can nudge dietary changes.

Food Waste Reduction

Each year, 30%–40% of globally produced food, worth more than \$1 trillion, is wasted (Godfray et al. 2010). While Western regions have set ambitious goals to cut food waste by the next decade (e.g., by half in the United States by 2030), Boston Consulting Group predicts that food waste will continue to soar because of global population growth and improving economic conditions in the industrialized regions that foster global demand for food (Hegnsholt et al. 2018) and overconsumption. The IPCC estimates that food waste alone contributes to 8%–10% of GHG emissions, nearly twice the annual emissions produced by cars in the United States and Europe. While food is wasted along the entire food production–consumption chain, a significant portion of waste is generated at its final stage: in private households. Thus, beyond encouraging companies to adopt more sustainable production and supply chain processes, understanding behavioral intervention strategies that could motivate or nudge consumers to waste less food is crucial. Such scientific inquiry warrants international marketers' and policy makers' attention since barriers to food waste are driven by cultural norms, regional industry practices, and heterogeneous retail infrastructures (for a review on household food waste, see Schanes, Dobermig, and Gözet [2018]). We discuss several promising research avenues and their potential implications next.

Research suggests that beyond environmental and social considerations, financial concerns are the strongest motivator for food waste avoidance (Schanes, Dobernig, and Gözet 2018). This indicates that consumers in the developed world or more affluent regions (e.g., Australia, Israel) might be less inclined to avoid food waste or respond to public behavioral change campaigns emphasizing frugality. However, food waste reduction in such regions could be motivated by subjective social norms that seem to cultivate intentions to reduce waste on a personal level. This could explain why affluent countries, such as Austria, generate relatively low food waste (UN Environment Programme 2021) and exhibit high levels of other sustainable behaviors. These examples suggest that on the individual level, consumer motivation to reduce waste might hinge on regional economic development and social norms revolving around wastefulness or sustainability.

On the industry level, marketing and other industry-specific practices should be considered. Price promotions, such as “buy one get one free,” spur impulse and bulk buying, potentially leading to poor stock management and food waste (for a review, see Schanes, Dobernig, and Gözet [2018]). Thus, regions with higher sensitivity to or prominence of price promotions (e.g., markets with lower economic development or higher competitive landscape) might experience more food waste originating from promotion-inspired bulk buying.

Another important industry practice to consider is package and portion size. The size of standard packages, as well as the recommended portions, varies greatly across countries. For example, a comparison of standard meal and beverage servings in popular chains in the United States and United Kingdom (e.g., McDonald’s, KFC, Starbucks) showed that American portions could be up to 100% larger than British equivalents (Avella 2023). Beyond promoting overconsumption, large portions and packages increase the likelihood of food being wasted (Koenigsberg, Kohli, and Montoya 2010). As highlighted by Schanes, Dobernig, and Gözet (2018), this is especially pronounced in small households, as up to one-quarter of food waste in this context could be attributed to the package size. Thus, waste reduction strategies revolving around packaging or portion downsizing might have different outcomes depending on the region. While more research is needed, it is plausible that regions with high rates of single-person households (e.g., Scandinavia) or countries with larger default portion/package sizes (e.g., the United States) would benefit more from packaging reduction or elimination of packaging (e.g., in case of produce) than other regions when tackling food waste.

Regional differences in grocery retail infrastructures could also inform strategies for waste reduction. For example, while grocery stores in the United States tend to be larger and are frequently located in the suburbs, food stores in Europe are generally smaller but are scattered more densely across urban and suburban areas. Differences in store accessibility and size might influence the number of shopping trips a household makes in a week, as well as the size of a shopping basket. As highlighted by Schanes, Dobernig, and Gözet (2018), such consequences influence wastefulness, with most food waste being produced when consumers shop exclusively at large

supermarkets (vs. local markets and smaller stores). These findings align with retail infrastructure differences between the United States and European Union and the corresponding food waste disparity (up to 40% in the United States [U.S. Environmental Protection Agency 2023] and around 20% in the European Union¹). Thus, it would be interesting to explore different strategies that could counter the disadvantages of less convenient retail infrastructure observed regionally. For example, given that meal planning is associated with less waste (Schanes, Dobernig, and Gözet 2018), fostering adoption of planning apps or online grocery shopping might be an effective strategy to reduce food waste in regions like the United States. In addition, future research should also investigate the role of food rescue apps such as Too Good To Go (i.e., acceptance, effectiveness, and behavioral consequences across cultures), which connect consumers with restaurants and stores that offer unused and unsold food at much lower prices to these consumers.

Finally, more research is needed to understand the effectiveness of public policy initiatives designed to tackle food waste. One promising strategy the EC has proposed is improving expiration date labeling on food. Up to 10% of food waste in the European Union is wasted because of consumer confusion with date labels referring to food safety and expiration (e.g., “use by”) and food quality (e.g., “best before”). Currently, the EC is investigating ways to label food more effectively in the European Union. Similarly, it is also exploring possibilities for legislation changes related to the availability of “ugly” (less aesthetically appealing) produce in European stores, which is frequently wasted as the current legislation does not encourage saving it (EC 2023). Thus, similar research initiatives would be needed to address these issues contributing to food waste internationally.

In summary, this commentary aimed to highlight the importance of dietary changes and food waste reduction as two GHG emission mitigation strategies frequently overlooked in the marketing discipline. A highly cultural nature of dietary preferences and regional differences in industry-specific practices and infrastructure contributing to food waste underscore the importance of the international perspective for scientific inquiries on this topic.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

- Avella, Joe (2023), “After Years of Reviewing Fast Food in the US and UK, I’m Still Shocked by the Size Differences. Take a Look at the Most Drastic Ones,” *Insider* (February 11), <https://www.insider.com/fast-food-portion-sizes-us-vs-uk-mcdonalds-kfc-dominos-starbucks-2023-1>.

¹ https://ec.europa.eu/food/safety/food_waste/eu-food-loss-waste-prevention-hub/about.

- EC (2023), "Commission Updates Marketing Standards of Agri-Food Products to Better Address Consumer Needs and Sustainability," press release (April 21), https://ec.europa.eu/commission/press-corner/detail/en/IP_23_2366.
- Flink, Tanya (2023), "28 Vegan Businesses Backed by Celebrities Like Serena Williams, Leonardo DiCaprio, and Cameron Diaz," *VegNews* (March 16), <https://vegnews.com/vegan-news/celebrities/vegan-celebrity-business-investors>.
- Food and Agriculture Organization of the United Nations (2021), "Food Systems Account for More Than One Third of Global Greenhouse Gas Emissions," (March 9), <https://www.fao.org/news/story/en/item/1379373/icode>.
- Godfray, H. Charles J., Paul Aveyard, Tara Garnett, Jim W. Hall, Timothy J. Key, Jamie Lorimer, Ray T. Pierrehumbert, Peter Scarborough, Marco Springmann, and Susan A. Jebb (2018), "Meat Consumption, Health, and the Environment," *Science*, 361 (6399), <https://doi.org/10.1126/science.aam5324>.
- Godfray, H. Charles J., John R. Beddington, Ian R. Crute, Lawrence Haddad, David Lawrence, James F. Muir, Jules Pretty, Sherman Robinson, Sandy M. Thomas, and Camilla Toulmin (2010), "Food Security: The Challenge of Feeding 9 Billion People," *Science*, 327 (5967), 812–18.
- Hegnsholt, Esben, Shalini Unnikrishnan, Matias Pollmann-Larsen, Bjorg Askelsdottir, and Marine Gerard (2018), "Tackling the 1.6-Billion-Ton Food Loss and Waste Crisis," Boston Consulting Group (August 20), <https://www.bcg.com/publications/2018/tackling-1.6-billion-ton-food-loss-and-waste-crisis>
- Koenigsberg, Oded, Rajeev Kohli, and Ricardo Montoya (2010), "Package Size Decisions," *Management Science*, 56 (3), 485–94.
- Kwasny, Tatjana, Karin Dobernig, and Petra Riefler (2022), "Towards Reduced Meat Consumption: A Systematic Literature Review of Intervention Effectiveness, 2001–2019," *Appetite*, 168, 105739.
- Onwezen, Marleen C., Emily P. Bouwman, Machiel J. Reinders, and Hans Dagevos (2021), "A Systematic Review on Consumer Acceptance of Alternative Proteins: Pulses, Algae, Insects, Plant-Based Meat Alternatives, and Cultured Meat," *Appetite*, 159, 105058.
- Schanes, Karin, Karin Dobernig, and Burcu Gözet (2018), "Food Waste Matters—A Systematic Review of Household Food Waste Practices and Their Policy Implications," *Journal of Cleaner Production*, 182, 978–91.
- Steenkamp, Jan-Benedict E.M. (2019), "Global Versus Local Consumer Culture: Theory, Measurement, and Future Research Directions," *Journal of International Marketing*, 27 (1), 1–19.
- Stoll-Kleemann, Susanne and Uta Johanna Schmidt (2017), "Reducing Meat Consumption in Developed and Transition Countries to Counter Climate Change and Biodiversity Loss: A Review of Influence Factors," *Regional Environmental Change*, 17, 1261–77.
- Tilman, David and Michael Clark (2014), "Global Diets Link Environmental Sustainability and Human Health," *Nature*, 515 (7528), 518–22.
- Toubia, Didier (2022), "Why a Meat Tax Is Addressing the Wrong Problem," World Economic Forum Annual Meeting (May 21), <https://www.weforum.org/agenda/2022/05/why-meat-tax-addressing-wrong-problem>
- UN Environment Programme (2021), "Food Waste Index Report 2021," <https://www.unep.org/resources/report/unep-food-waste-index-report-2021>.
- U.S. Environmental Protection Agency (2023), "United Nations 2030 Food Loss and Waste Reduction Goal," (April 4), <https://www.epa.gov/sustainable-management-food/united-states-2030-food-loss-and-waste-reduction-goal>.
- Yale Center for Business and the Environment (2016), "Disrupting Meat," (October 12), <https://cbey.yale.edu/our-stories/disrupting-meat>.