

April 27, 2023

FSIS Docket Clerk
Department of Agriculture
Food Safety and Inspection Service
Room 2534 South Building
1400 Independence Avenue, S.W.
Washington, DC 20250-3700

Re: Petition to Prohibit “Low-Carbon Beef” Claim and Require Third-Party Verification for Similar Claims and a Numerical Carbon Disclosure.

The Environmental Working Group respectfully submits this petition to the U.S. Department of Agriculture (USDA) to:

- Prohibit the “Low-Carbon Beef” Claim recently approved by USDA.
- Require third-party verification for similar carbon claims.
- Require a numerical on-pack carbon disclosure when such claims are made.

Thank you for your consideration of this petition. Replies and other communication can be directed to sfaber@ewg.org.

Sincerely,

Scott Faber¹ and Kalena Wojtala²
Environmental Working Group
1250 I Street N.W., Suite 1000
Washington, D.C. 20005

¹ Scott Faber is Senior Vice President for Government Affairs for the Environmental Working Group

² Kalena Wojtala is a J.D. candidate at Vermont Law School and intern for the Environmental Working Group

Summary

Consumers are increasingly seeking to use their buying power to reduce greenhouse gas emissions. Misleading climate claims, including the “Low-Carbon Beef” claim recently approved by the USDA, undermine these efforts by confusing consumers. Many of these claims are not verified by independent, qualified third parties, and experts agree that USDA lacks reliable measurement, monitoring, reporting, and verification protocols.

To address misleading climate claims, we urge USDA to reject misleading claims, such as the agency’s Low-Carbon Beef claim, and to modernize USDA’s verification system for climate claims to require independent third-party verification of claims. We further urge USDA to require a numerical carbon disclosure whenever such claims are made.

Allowing misleading climate claims, including USDA’s Low-Carbon Beef claim, or allowing climate claims without sufficient verification and an accompanying numerical carbon disclosure, violates federal laws which prohibit false and misleading claims.

About the Petitioner

The **Environmental Working Group** (EWG) is a public interest, nonprofit, nonpartisan organization, with offices in Washington, D.C., San Francisco and Sacramento, California, and Minneapolis, Minnesota. EWG aims to empower people to live healthier lives in a healthier environment, and for over two decades, it has worked to protect human health and the environment through breakthrough research and education, encouraging consumer choice and civic action.

Full Statement of the Action Requested

Pursuant to 5 U.S.C. 553 (e), 7 CFR § 1.28, and 9 C.F.R. § 392.5, the Petitioner requests that FSIS take the following actions:

- 1) Prohibit “Low-Carbon Beef” claims, which are false and misleading;
- 2) Require independent third-party verification of any climate claims; and
- 3) Require a numerical carbon disclosure whenever such claims are made.

Basis for the Action Requested

A. Low-Carbon Beef Claims Are Inherently Misleading

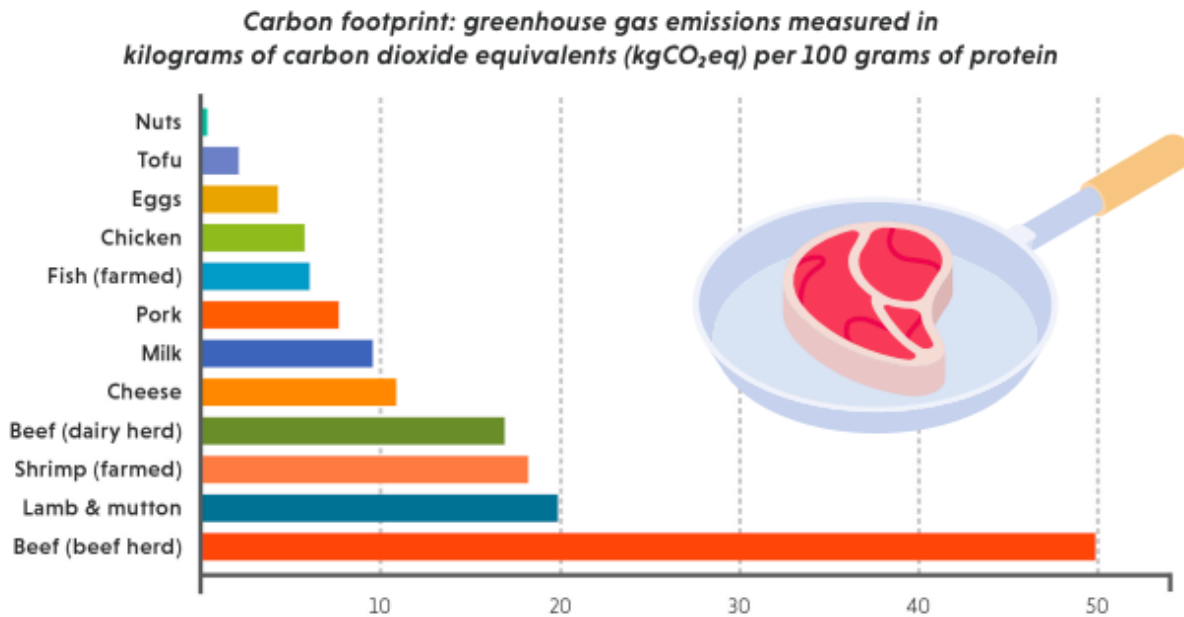
There is no such thing as “Low-Carbon Beef.” In fact, no food choice results in more greenhouse gas emissions than choosing beef.³ However, many consumers viewing the Low-Carbon Beef label approved by USDA are likely to assume that beef bearing such a label will help reduce greenhouse gas emissions.

Even the beef which meets the “Low-Carbon” beef standard approved by USDA still results in more greenhouse gas emissions than any other food choice, including any other meat or poultry choice. Making matters worse, beef meeting USDA’s “Low-Carbon” beef standard would still result in more emissions than much of the beef produced elsewhere in the U.S. or Canada.⁴ By any measure, choosing beef is a bad choice for the climate. Per gram of protein, beef production results in approximately nine times more greenhouse gas emissions than poultry, six-and-a-half times more than pork, and 25 times more than soybeans.⁵

³ Xiaoming Xu et al., *Global Greenhouse Gas Emissions From Animal-Based Foods are Twice Those of Plant-Based Foods*, *Nature Food* 724 (2021), <https://www.nature.com/articles/s43016-021-00358-x>.

⁴ To meet USDA’s “Low Carbon” Beef standard, beef production must reduce emissions by 10% of 26.3 kilograms of carbon dioxide equivalents per kilogram of carcass weight. Matt Reynolds, *Is There Really Such a Thing as Low-Carbon Beef?*, *Wired* (Jan. 17, 2022), <https://www.wired.com/story/low-carbon-beef/>. However, a recent study of beef production in the U.S. found beef production resulted, on average, 21.3 kilograms of carbon dioxide equivalents per kilogram of carcass weight. *Id.* (citing C. Alan Rotz, *Environmental Footprints of Beef Cattle Production in the United States*, 169 *Agricultural Systems* 1 (2019), <https://www.sciencedirect.com/science/article/pii/S0308521X18305675>). In Canada, the average is approximately 19 kilograms of carbon dioxide equivalents per kilogram of carcass weight. *Id.* (quoting Karen Beauchemin, an expert on cattle nutrition at Canada’s Department of Agriculture and Agri-Food).

⁵ *Id.* (citing J. Poore & T. Nemecek, *Reducing Food’s Environmental Impacts Through Producers and Consumers*, 360 *Science J.* 987 (2018), <https://www.science.org/doi/abs/10.1126/science.aag0216>), <https://www.wired.com/story/low-carbon-beef/>.



Source: EWG analysis of GHG data based on global averages of all production types.⁶

B. Many Carbon Claims are Inherently Misleading

Consumers are deeply confused by similar carbon claims, including but not limited to Net-Zero, Carbon Neutral, Carbon Negative, Climate Neutral, Net-Zero Carbon, Climate Positive, Climate Neutral, and Carbon Positive. Many of these claims are already appearing on products subject to USDA regulation, such as:

⁶ Environmental Working Group, *EWG's Quick Tips For Reducing Your Diet's Climate Footprint*, (2022), https://www.ewg.org/sites/default/files/2022-04/EWG_TipSheet_Meat-Climate_C02.pdf.



Silver Fern Farms Net Carbon Zero Angus Beef.⁷



Maple Leaf Carbon Neutral Label on Products.⁸

⁷ Silver Fern Farms, <https://silverfermfarms.com/us/en/our-range/net-carbon-zero-beef-range> (last visited Apr. 23, 2023).

⁸ Maple Leaf Foods, <https://www.mapleleaffoods.com/sustainability-report/better-food/> (last visited Apr. 23, 2023).



Conagra Evol Brand Carbon Neutral Label.⁹



Purely Organic Carbon Neutral Label.¹⁰

Studies show that consumers are often misled by these claims. Most consumers believe these claims reflect reductions in actual greenhouse gas emissions in-house, not offsets of these

⁹ Conagra Brands, <https://www.conagrabrands.com/news-evolr-becomes-first-frozen-brand-to-offer-carbonfree-certified-carbon-neutral-meals-prn-122805> (last visited Apr. 23, 2023).

¹⁰ Purely Organic, <https://www.noblefoods.co.uk/purely-organic-certified-carbon-neutral/> (last visited Apr. 23, 2023).

emissions through changes in farming practices by others.¹¹ When consumers are told that claims could be made by reliance on offsets in lieu of actual emissions reductions, most consumers report feeling misled.¹² Experts have found the lack of a standard definition for terms like “net zero” and “carbon neutral” contributes to consumer confusion. In the absence of a standard definition, consumers report wanting more information on offsets, including verification measures.¹³

C. Carbon Claims Should be Subject to Third-Party Verification

All carbon claims, including claims which rely on carbon offsets, should be subject to independent third-party verification.

Experts agree that USDA currently lacks reliable measurement, monitoring, reporting, and verification protocols, or MMRV protocols, for farm stewardship practices. In addition, consumers, NGOs (non-governmental organizations), and academics also do not have access to the data which supports these protocols, sowing doubt with regard to promised environmental benefits.¹⁴ One recent report concluded, “[T]here are major questions regarding the validity of agricultural-based carbon offset emanating from voluntary carbon markets . . . Simply put, the lack of practical and scientifically sound approaches for confirming specified practices generates claimed benefits, and the lack of access to confirmatory data poses major systemic impediments to rewarding farmers and ranchers for deploying climate-smart practices.”¹⁵

Companies making carbon claims often rely on models that do not provide a “sound basis for quantifying or monetizing increases in carbon sequestration in soils or decreases in methane and nitrous oxide emissions.”¹⁶ In particular, measuring and monitoring soil carbon presents unique challenges, as different regions have widely different soil types, and carbon concentration can vary significantly within a particular field. What’s more, soil carbon can take many years to

¹¹ The Advertising Standards Authority (ASA) found through a survey that in making [carbon neutral and net zero] claims, businesses were not believed to be taking an offsetting-first approach – instead, they were believed to have been reducing their absolute emissions in-house. Sarah George, *Consumers Confused Over Net-Zero Claims in Ads, ASA Warns*, Edie (Oct. 20, 2022), <https://www.edie.net/consumers-confused-over-net-zero-claims-in-ads-asa-warns/> (citing Advert. Standards Auth., *Environmental Claims in Advertising: Qualitative Research Report*, Jigsaw Research (Oct. 2022)).

¹² *Id.* When the ASA explained that brands could technically claim carbon neutrality by offsetting alone, a majority said that they would feel misled.

¹³ *Id.* The ASA found that members of the public would like more information on offsetting and emissions reductions, with accompanying time frames, from the brands that they shop with.

¹⁴ Kim Novick, et al., *The Science Needed for Robust, Scalable, and Credible Nature-Based Climate Solutions in the United States*, (Ind. Univ. O’Neill School of Public and Environmental Affairs, 2022), <https://scholarworks.iu.edu/dspace/handle/2022/28264>.

¹⁵ David J. Hayes et al., *Data Progress Need for Climate-Smart Agriculture*, Stanford Law School, Law and Policy Lab, (Apr. 2023) [Hereinafter “Stanford Report”].

¹⁶ *Id.*

accumulate.¹⁷ These limitations “have eliminated or severely limited the availability of reliable baseline data against which changes in soil concentrations due to good soil management practices can be measured and monitored. Unmoored from baseline conditions, subsequent soil carbon sampling activities using traditional methods arguably offer only random data points that cannot support meaningful conclusions about sequestered carbon quantities or trends.”¹⁸ The American Society of Agronomy, in recent comments to the USDA, concluded that “the scientific community currently lacks consensus” on the best approaches to measure soil carbon sequestration, citing the need for better data.¹⁹

As a result, experts recently called on USDA’s Natural Resources Conservation Service to rescind the agency’s soil carbon protocols.²⁰ Similar concerns have been raised regarding USDA protocols to assess reductions in nitrous oxide²¹ and methane emissions.²² More data is needed from a more representative set of samples to quantify the benefits of climate-smart practices, whether implemented alone or in combination with other practices.²³ In particular, nitrous oxide emissions vary significantly, and efforts to increase soil carbon can result in increases in nitrous oxide emissions.²⁴

A growing body of evidence has demonstrated that land- and forest-based carbon offsets have produced few emissions reductions and inconsistent forest protection.²⁵ While methane and

¹⁷ Emily Oldfield, et al., *Agricultural Soil Carbon Credits: Making Sense of Protocols for Carbon Sequestration and Net Greenhouse Gas Removals* (2021), <https://www.edf.org/sites/default/files/content/agricultural-soil-carbon-credits-protocol-synthesis.pdf>.

¹⁸ Stanford Report, *supra* note 15, at 13.

¹⁹ American Society of Agronomy et al., *Comment Letter on Request for Public Input About Implementation of the Inflation Reduction Act Funding*, (2022).

²⁰ Environmental Defense Fund, et al., *Joint Comment in Response to Request for Public Input About Implementation of the Inflation Reduction Act Funding*, (Dec. 21, 2022).

²¹ Stanford Report, *supra* note 15, at 9.

²² *Id.*

²³ Novick, *supra* note 14 at 9.

²⁴ *Id.*

²⁵ E.g., Shane Coffield and James Randerson, *Satellites Detect No Real Climate Benefit from 10 Years of Forest Carbon Offsets in California*, *The Conversation* (Dec. 01, 2022), <https://theconversation.com/satellites-detect-no-real-climate-benefit-from-10-years-of-forest-carbon-offsets-in-california-193943>. See also Kate Dooley et al., *Carbon Removals from Nature Restoration are no Substitute for Steep Emission Reductions*, 5 *One Earth*, 812 (2022), [https://www.cell.com/one-earth/fulltext/S2590-3322\(22\)00323-2?returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2590332222003232%3Fshowa%3Dtrue](https://www.cell.com/one-earth/fulltext/S2590-3322(22)00323-2?returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2590332222003232%3Fshowa%3Dtrue). Thales A. P. West et al., *Overstated Carbon Emission Reductions from Voluntarily REDD+ Projects in the Brazilian Amazon*, 117 *Proceedings of the Nat’l Academy of Sciences*, 24188 (2020), <https://www.pnas.org/doi/full/10.1073/pnas.2004334117>. Thiago Chagas et al., *A Close Look at the Quality of REDD+ Carbon Credits*, *Climate Focus*, (Mar. 20, 2020), <https://climatefocus.com/publications/close-look-quality-redd-carbon-credits/>. Grayson Badgley et al., *Systematic Over-Crediting of Forest Offsets*, (Carbon)Plan, (Apr. 29, 2021), <https://carbonplan.org/research/forest-offsets-explainer>. Lisa Song and Paula Moura, *An Even More Inconvenient Truth: Why Carbon Credits For Forest Preservation May be Worse Than Nothing*, ProPublica, (May 22, 2019), <https://features.propublica.org/brazil-carbon-offsets/inconvenient-truth-carbon-credits-dont-work-deforestation-redd-acre-cambodia/>. Dr. Martin Cames et al., *How Additional is the Clean Development Mechanism: Analysis of the Application of Current Tools and Proposed Alternatives*, Öko-Institut e.V., 11 (Mar. 2016),

nitrous oxide emissions produce most of the emissions from agriculture, few of the offsets issued between 1996 and 2021 reduced emissions of these powerful greenhouse gasses.²⁶ As a result, many offsets used to support carbon claims fail to produce promised benefits. A recent analysis of more than 215,000 offsets over the past decade found that global brands routinely relied on suspect offsets.²⁷ As a result, many products that carry claims like “climate neutral” or “climate positive” likely result in increases, not decreases, in greenhouse gas emissions.²⁸

Consumers are willing to choose or even pay more for products that reduce greenhouse gas emissions. For example, one study of tomatoes and apples found that consumers were willing to pay a premium for products that reduced their carbon footprint.²⁹ Many younger consumers report changing buying behavior to reflect concern about the environment.³⁰ Other studies found similar results.³¹

Consumers expect that these carbon claims have been verified by an independent third party. However, USDA relies on affidavits by farmers and food companies that are not subject to verification by USDA or a qualified third-party.³² In other words, USDA currently relies upon

https://climate.ec.europa.eu/system/files/2017-04/clean_dev_mechanism_en.pdf, Raphael Cael et al., *Do Carbon Offsets Offset Carbon?*, Grantham Rsch. Inst. on Climate Change & the Env't, Ctr. for Climate Change Econ. & Policy, (Nov. 2021), <https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2021/11/working-paper-371-Cael-et-al..pdf>. Derik Broekhoff, *Expert Report on CO2 Compensation*, Stockholm Env't Inst., (July 2022), <https://www.clientearth.org/media/exyfip2p/productie-4-broekhoff-expert-report-v2-2-final.pdf>.

²⁶ Ruth DeFries et al., *Land Management Can Contribute to Net Zero*, 376 *Sci.* 1163, 1164 (2022).

²⁷ Akshat Rathi et al., *Junk Carbon Offsets Are What Make These Big Companies 'Carbon Neutral'*, Bloomberg (Nov. 21, 2022), <https://www.bloomberg.com/graphics/2022-carbon-offsets-renewable-energy/#xj4y7vzkg>.

²⁸ See Joe Sandler Clarke and Luke Barratt, *Top Airlines' Promises to Offset Flights Rely on 'Phantom Credits'*, Unearthed Greenpeace UK (Apr. 2021), <https://unearthed.greenpeace.org/2021/05/04/carbon-offsetting-british-airways-easyjet-verra/>.

²⁹ A significant proportion of consumers are willing to pay a premium for reducing their carbon footprint by choice or requested a discounted price for products with a higher carbon footprint. Christina Lampert, *Will Carbon-Labeled Products Sell More? Here's What We Know*, Sustainable Brands (Feb. 2022), (citing *Id.* (citing Onozaka et al., *Defining Sustainable Food Market Segments: Do Motivations and Values Vary by Shopping Locale?*, 93 *Am. J. Agric. Econ.* 583-589 (2011)).)

³⁰ 64% of Gen X consumers will spend more on a product if it comes from a sustainable brand, and it jumps to 75% among millennials. GreenPrint, *Business of Sustainability Index*, (Mar. 2021), https://greenprint.eco/wp-content/uploads/2021/03/GreenPrint-Business-of-Sustainability-Index_3.2021.pdf.

³¹ Most consumers are willing to pay more for food products that exhibit a lower carbon footprint. Maurizio Canavari et al., *Consumer Stated Preferences for Dairy Products with Carbon Footprint Labels in Italy*, 8 *Agric. & Food Econ.* (2020), <https://doi.org/10.1186/s40100-019-0149-1>. See also Mengmeng Xu et al., *Towards Low-Carbon Economy by Carbon Label?: Survey Evidence From First-Tier Cities in China*, 97 *Env't Impact Assessment Rev.* 106902 (Nov. 2022), <https://doi.org/10.1016/j.eiar.2022.106902>. Julia A. Wolfson et al., *Effect of Climate Change Impact Menu Labels on Fast Food Ordering Choices Among US Adults: A Randomized Clinical Trial*, 5 *JAMA Netw. Open.* 2248320 (2022), doi:10.1001/jamanetworkopen.2022.48320.

³² Under FSIS Guidelines, the only documentation needed to support such climate-smart claims are written descriptions from the farmers explaining how their process supports their claim. Food Safety and Inspection Service, *Animal Raising Claims Labeling Guidelines Update*, (Sep. 2021), PowerPoint. https://www.fsis.usda.gov/sites/default/files/media_file/2021-09/Animal-Raising-Claims-labeling-and-Non-GMO-slides-2021-09-01.pdf.

the honor system. Fortunately, third-party verification is familiar to USDA. For example, qualified third parties must certify that organic food meets USDA standards. Experts have identified measurement and monitoring protocols that feature sampling and analytical tools designed to measure changes in carbon, methane, or nitrous oxide levels.³³

USDA recognizes that better measurement, monitoring, and verification tools are badly needed before offsets should be permitted to support carbon claims. Indeed, one purpose of the USDA's Partnership for Climate Smart Commodities is to "quantify, monitor, report and verify climate results."³⁴ In particular, USDA finds³⁵ the following barriers to the use of carbon claims:

- The lack of standard definitions of climate-smart commodities;
- The lack of clear standards for the measurement of climate benefits;
- The potential for double counting of benefits.

USDA further recognizes that the effects of climate-smart practices vary depending upon the location, landscape position, methods of installation, and type of activity.³⁶ To address these uncertainties, USDA is currently creating a "learning network" to incorporate the lessons learned from individual projects. One of the purposes of the program is to "learn from different approaches in deploying climate-smart practices [and in] innovation in greenhouse gas quantification, monitoring, and verification."³⁷ Congress also provided \$300 million in the Inflation Reduction Act (IRA) to "quantify" and "monitor and track" emissions by collecting "field-based data" to measure the benefits of climate-smart practices funded by the IRA.³⁸

D. Any Carbon Claim Should be Accompanied by a Numerical Disclosure

To avoid consumer confusion and address uncertainties in measurement, any carbon claims should be accompanied by an on-pack numerical carbon disclosure.

Many products already feature an on-pack numerical disclosure, including:

³³ Stanford Report, *supra* note 15, at 6.

³⁴ USDA, *Partnership for Climate Smart Commodities*, <https://www.usda.gov/climate-solutions/climate-smart-commodities> (last visited on Apr. 4, 2023).

³⁵ USDA, *Programmatic Environmental Assessment for Climate-Smart Commodities*, (Aug. 26, 2022), <https://www.usda.gov/sites/default/files/documents/partnerships-climate-smart-commodities-pea.pdf> (last visited on Apr. 4, 2023).

³⁶ *Id.* at 34.

³⁷ USDA, *Partnerships for Climate-Smart Commodities FAQs*, (Jan. 2023) <https://www.usda.gov/climate-solutions/climate-smart-commodities/faqs>.

³⁸ Inflation Reduction Act of 2022 § 21001(a)(1)(B)(iii), 136 Stat. 1818.



Quorn Carbon Footprint Label.³⁹



Oatly Carbon Footprint Label.⁴⁰

³⁹ Quorn, <https://www.quorn.co.uk/company/press.quorn-unveils-carbon-footprint-labelling-of-its-products-and-calls-on-other> (last visited Apr. 24, 2023).

⁴⁰ CarbonCloud, <https://carboncloud.com/2021/10/07/oatly/> (last visited Apr. 24, 2023).



Ty Ling Carbon Label.⁴¹

On-pack numerical disclosures are based upon complex Life Cycle Assessments (LCAs),⁴² which should also be carefully reviewed and approved by both USDA and the Environmental Protection Agency (EPA). Different types of LCAs include ISO Compliant,⁴³ PEF Compliant,⁴⁴ and Screening LCAs.⁴⁵

E. Legal Basis for Requested Action

U.S. citizens have the right to petition the government to add, amend, or repeal rules under the First Amendment of the U.S. Constitution and the Administrative Procedures Act (5 U.S.C. 553(e)), and may petition to amend USDA rules under 7 CFR 1.28 and 9 CFR 392.5. Under this authority, the petitioner requests that the Secretary of Agriculture prohibit “Low-Carbon Beef” claims, require third-party verification of carbon claims, and require a numerical carbon disclosure when such claims are made.

⁴¹ Ty Ling, <https://tyling.com.carbon-label-packaging/> (last visited Apr. 24, 2023).

⁴² Eco Matters, *What is an LCA Process?*, <https://www.ecomatters.nl/services/lca-epd/life-cycle-assessment/> (last visited Apr. 23, 2023).

⁴³ An ISO-Compliant LCA follows all the steps recommended by ISO standards 14040 and 14044 and is grounded in a detailed LCA report. Quantis, *Guidelines for Credible, Science-driven Environmental Footprint Claims*, (2022), https://25337892.fs1.hubspotusercontent-eu1.net/hubfs/25337892/environmental-footprint-claims-guidance-reportquantis2022.pdf?utm_medium=email&_hsmi=67241665&_hsenc=p2ANqtz-8U_FMpXwFw1h5obPtd1XkXN8BpS1e3BKqGZOUCCgPOO0EXGXMOVZ2W-KMhIk31b8kMRnbnUOpNMz8RZ-BXbCxFOxe8g&utm_content=67241665&utm_source=hs_automation

⁴⁴ *Id.*

⁴⁵ *Id.*

Prohibiting a “Low-Carbon Beef” claim, requiring third-party verification and a numerical carbon disclosure are permitted under the *Central Hudson* test. Under the *Central Hudson* test, a four-part test is used to determine to what extent commercial speech is protected by the First Amendment.⁴⁶ First, the court must determine whether the speech in question is protected commercial speech. Protected commercial speech must “concern lawful activity and not be misleading.”⁴⁷ Second, USDA must show it has a substantial interest in controlling the speech. Protecting consumers from fraud, deception, and coercion are substantial state interests.⁴⁸ Third, USDA must show that the regulation directly advances the government’s stated substantial interest.⁴⁹ Finally, the scope of the regulation must be necessary to serve the government’s interest, that is, the government must ensure that the law does not “burden substantially more speech than necessary.”⁵⁰ The government need not use the *least* restrictive means.⁵¹ The government must show a “fit between the legislature’s ends and the means chosen to accomplish those ends, a fit that is not necessarily perfect, but reasonable.”⁵²

Requiring a mandatory numerical carbon disclosure when carbon claims are made is permitted under the *Zauderer* test. Under *Zauderer v. Office of Disciplinary Counsel of Supreme Court of Ohio*, commercial speech that is not *false* or *deceptive* and does not concern unlawful activities may be restricted only in the service of a substantial governmental interest, and only through means that directly advance that interest.⁵³ Where an action compels disclosure of “purely factual and uncontroversial information,” the law need only be “reasonably related to the [government’s] interest in preventing deception of consumers to pass under the First Amendment.”⁵⁴ Regulators and courts can require businesses to disclose undisputedly factual and ideologically neutral information about their products, such as a numerical carbon label.

⁴⁶ The four-part test under *Central Hudson* is (1) whether the speech is protected at all, (2) whether the government has a substantial interest in controlling the speech, (3) whether the regulation advances the substantial government interest, and (4) whether the government’s regulation is necessary to serve that substantial interest.

⁴⁷ Mackenzie Battle & Cydnee Bence, *How Does the First Amendment Apply to Food and Supplement Labels*, Ctr. for Agric. & Food Sys., (citing *Central Hudson*, 447 U.S. at 564.), <https://labelsunwrapped.org/wp-content/uploads/2021/06/First-Amendment-Food-Labeling-Issue-r5.pdf>.

⁴⁸ *Id.* (citing *Edenfield v. Fane* at 768; *Rubin v. Coors Brewing Co.*, 514 U.S. 476, 484 (1995)).

⁴⁹ *Id.* (citing *Central Hudson*, 447 U.S. at 565).

⁵⁰ *Id.* (citing *Board of Trustees of State University of New York v. Fox*, 492 U.S. 469, 478 (1989)).

⁵¹ *Id.* (citing *Board of Trustees of State University of New York v. Fox*, 492 U.S. 469, 479 (1989)).

⁵² *Id.* (citing *Board of Trustees of State University of New York v. Fox*, 492 U.S. 469, 478 (1989)). At 480 (quoting *Posadas de Puerto Rico Assoc. v. Tourism Co. of Puerto Rico*, 478 U.S. 328, 341 (1986), overruled by *44 Liquormart, Inc. v. Rhode Island*, 517 U.S. 484 (1996)) (internal quotations omitted).

⁵³ *Zauderer v. Office of Disc. Counsel*, 471 U.S. 626, 637-638.

⁵⁴ *Id.* at 651.

Under *American Meat Institute v. USDA*,⁵⁵ the D.C. Circuit held that *Zauderer* applies to “factual and uncontroversial” disclosure mandated by the government for *any purpose*.⁵⁶ By promoting “the robust and free flow of accurate information,” factual disclosure mandates further the interests protected by the commercial speech doctrine.⁵⁷ In particular, the court found that a compelled disclosure must be “purely factual and uncontroversial.” Like the facts disclosed in the *American Meat Institute* case, which conveyed facts that are “directly informative of intrinsic characteristics of the product,” the disclosure we propose is not one-sided,⁵⁸ nor does a numerical carbon disclosure convey messages that are biased against or are expressly contrary to a corporation's views.⁵⁹

⁵⁵ *Am. Meat. Inst. v. U.S. Dep’t of Agric.*, 760 F.3d 18 (D.C. Cir. 2014) (en banc).

⁵⁶ *Id.* at 22.

⁵⁷ *Id.* (quoting *AMI*, 760 F.3d at 29 (quoting *Nat’l e;ec. Mfrs. Ass’n v. Sorrel*, 272 F.3d 104, 114 (2d Cir. 2001))).

⁵⁸ *AMI*, 760 F.3d at 24-25 (citing *Nat’l Ass’n of Mfrs. v. NLRB*, 717 F.3d at 958, describing one party’s argument that disclosures were “one-sided ... favoring unionization”).

⁵⁹ *AMI*, 760 F.3d at 25 (“*Zauderer* does not leave the state “free to require corporations to carry the messages of third parties, where the messages themselves are biased against or are biased against or are expressly contrary to the corporation’s views.” (citing *Pacific Gas & Electric Co. v. Public Utilities Commission*, 475 U.S. 1, 15-16 n.12, 106 S. Ct. 903, 89 L. Ed. 2d 1(1986))).