

*Feeding Climate Change: Federal Food Procurement
and Its Effects on Global Warming*

Introduction

Increasingly, scientists and policymakers are finding a connection between food choices --- particularly meat --- and climate change. Some foods, such as beef, appear to be much higher contributors to greenhouse gas emissions than others. This is caused by the way food is grown, the way it is prepared, and the way it is transported. And coincident with the fact that some foods are greater contributors to climate change is the fact that the federal government buys huge amounts of food. In federal cafeterias, schools, prisons, and the military, the government supplies the American people with food. Thus, given the link between certain foods and climate change, the government can help combat climate change by building environmentally conscious policies into its food purchasing procedures.

There are several ways citizens can try to ensure that these procedures are created. The first is a litigation strategy: Claiming that the federal government is violating procurement procedures that are already in place. The second is a rulemaking strategy: Requesting that federal agencies put affirmative policies in place that require food procurers to consider the effects on the environment. The third is a NEPA strategy: Attempting to require federal agencies to prepare Environmental Impact Statements for their procurement decisions. And finally, fourth is a legislative strategy: Asking legislators to draft --- or amend --- legislation that would require environmental considerations be placed into food procurement procedures. The technical aspects of each strategy, as well as the policy implications of each, are discussed in this paper.

I. Food and Climate Change

In 2006, the Food and Agricultural Organization of the United Nations (FAO) released a report that found that livestock was a major contributor to climate change.¹ Livestock contributes a whopping 18% of total anthropogenic greenhouse gas (GHG) emissions that are produced by energy, industry, waste, land use, land use change and forestry, and agriculture.² That is more than the GHGs produced by the transportation industry.³ The carbon generated by the livestock industry comes from the fossil fuels burned to create fertilizers for feed, methane from fertilizers and manure, the land use change required to produce feed and grazing, land degradation, fossil fuels used *during* feed production, and fossil fuels used producing and transporting animal products.⁴

The FAO's findings are mirrored by other studies. A study by the World Resources Institute (WRI) found that agriculture accounted for approximately 15% of world GHGs,⁵ while transportation accounted for approximately 14%.⁶ The WRI found those figures to come from, in order of most to least significance, energy-related emissions, rice, enteric fermentation, soils, and other sources.⁷

While the above studies were done on a global scale, agriculture is also a significant source of GHGs within the United States. The EPA estimates that agriculture accounts for somewhere between 6.4

¹ Agric. & Consumer Prot. Dep't, Food & Agric. Org. of the United Nations, *Livestock Impacts on the Environment*, FOOD & AGRIC. ORG. MAG., Nov. 2006, at <http://www.fao.org/ag/magazine/0612sp1.htm> [hereinafter FAO Magazine, *Livestock Impacts*].

² Food & Agric. Org. of the United Nations, *Livestock's Long Shadow: Environmental Issues and Options* 112 (2006) [hereinafter FAO, *Livestock's Long Shadow*]. That figure includes 9% of carbon dioxide, 35-40% of methane, 65% of nitrous oxide, and 64% of ammonia. *Id.* at 112-14.

³ FAO Magazine, *Livestock Impacts*, *supra* note 1.

⁴ FAO, *Livestock's Long Shadow*, *supra* note 2, at 86.

⁵ Kevin A. Baumert, Timothy Herzog & Jonathan Pershing, World Res. Institute, *Navigating the Numbers: Greenhouse Gas Data and International Climate Policy* 85 (2005), available at http://pdf.wri.org/navigating_numbers.pdf [hereinafter WRI, *Navigating the Numbers*].

⁶ *Id.* at 63; *see also* Appendix.

⁷ *Id.* at 86.

and 7.4% of GHGs in the United States.⁸ The figure is lower in the United States than the rest of the globe because the United States has higher levels of other emitters, such as transportation.⁹

Not all agriculture or livestock is created equal when it comes to GHGs. Beef emits far more CO₂ per pound than shrimp, which emits far more CO₂ per pound than fish, which emits far more CO₂ per pound than chicken.¹⁰ Measuring GHGs per calorie, or some other similar method, may be a more accurate way to identify how much bang an eater is getting for her environmental buck.¹¹

The federal government purchases a significant portion of the agricultural products in the United States. The government feeds schoolchildren, federal inmates, federal employees, and military personnel, among others.¹² There are approximately 53.2 million schoolchildren in the United States,¹³ and over 200,000 federal inmates in United States prisons.¹⁴ The United States also employs approximately 2.0 million employees, excluding the Postal Service or the military.¹⁵ The Postal Service employs 656,000

⁸ Elisabeth Rosenthal, *As More Eat Meat, a Bid to Cut Emissions*, N.Y. TIMES, Dec. 4, 2008, at A1 (placing figure at 7.4%); see also EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006, at 14 (placing figure at 6.4%).

⁹ Rosenthal, supra note 8, at A1.

¹⁰ Rosenthal, supra note 8, at A1 & graphic; see also Appendix.

¹¹ Scientists have used various measures to look to environmental harm per unit of energy derived from various food products. Most if not all of those measures show red meat as the most clearly environmentally deleterious. See, e.g., Christopher L. Weber & H. Scott Matthews, *Food-Miles and the Relative Climate Impacts of Food Choices in the United States*, Env't Sci. & Tech., Apr. 16, 2008, at 3 fig.2; see also Appendix.

¹² See infra Part II.

¹³ Based on 2004 census numbers. That includes 36.4 children ages 5-13, and 16.8 million ages 14-17. Press Release, U.S. Census Bureau, Census Bureau Estimates the Number of Children and Adults in the States and Puerto Rico (Mar. 10, 2005), available at <http://www.census.gov/Press-Release/www/releases/archives/population/004083.html>.

¹⁴ Based on 2008 figures (approximately 201,280 in all). William J. Sabol, Heather C. West & Matthew Cooper, Bureau of Justice Statistics, U.S. Dep't of Justice, *Prisoners in 2008* (Dec. 2009), at <http://bjs.ojp.usdoj.gov/content/pub/pdf/p08.pdf>.

¹⁵ Bureau of Labor Statistics, Dep't of Labor, *Career Guide to Industries, 2010--2011 Edition* (Dec. 17, 2009), at <http://www.bls.gov/oco/cg/cgs041.htm>.

people full-time,¹⁶ and the United States military currently has 1,418,542 personnel.¹⁷ Given that the United States population in 2009 was approximately 305 million,¹⁸ that means that the federal government feeds approximately 18.8% of the United States population anywhere from one to three times a day. Thus, the government's food procurement decisions may have a substantial impact on the environment. Consider the fact that food decisions rival transportation as one of the greatest contributors to climate change: If we could easily reduce the amount that 20% of the U.S. population drives a day, wouldn't we?

Forcing government buyers to consider the "GHGs per calorie" (or other similar measures) when making procurement decisions could ensure that meal recipients are consuming nutritionally adequate food while still lessening their impact on the environment. After all, low- and no-meat diets can still be nutritionally sound, and completely adequate sources of protein,¹⁹ as well as iron.²⁰

Numerous studies have determined that a vegetarian diet is not only not harmful, but may even carry certain health benefits.²¹ Those benefits include lower levels of cholesterol and saturated fat, lower body mass indices and blood pressure, and decreased rates of ischemic heart disease, hypertension, type 2

¹⁶ Based on 2009 figures. U.S. Postal Service, *Postal Facts: Facts and Figures About Your Postal Service*, at <http://www.usps.com/communications/newsroom/postalfacts.htm> (last visited Dec. 21, 2009).

¹⁷ Dep't of Defense, *Active Duty Military Personnel Strengths by Regional Area and By Country* (Sept. 20, 2009), at <http://siadapp.dmdc.osd.mil/personnel/MILITARY/history/hst0909.pdf>.

¹⁸ *U.S. Population, 2009: 305 Million and Counting*, U.S. News & World Report, Dec. 31, 2008, at <http://www.usnews.com/articles/opinion/2008/12/31/us-population-2009-305-million-and-counting.html>.

¹⁹ American Dietetic Ass'n & Dietitians of Canada, *Position of the American Dietetic Association and Dietitians of Canada: Vegetarian Diets*, 103 ADA Reports 748, 750 (2003) ("[T]ypical protein intakes of lacto-ovo-vegetarians and of vegans appear to meet and exceed [protein] requirements. Athletes can also meet their protein needs on plant-based diets.").

²⁰ *Id.*

²¹ See Timothy J. Key, Paul N. Appleby & Magdalena S. Rosell, *Health Effects of Vegetarian and Vegan Diets*, 65 Proceedings of the Nutrition Society 35, 35 (2006) "Overall, the data suggest that the health of Western vegetarians is good and similar to that of comparable non-vegetarians.");

diabetes, prostate cancer, lung cancer, atonic constipation, gallstones, alcoholism, and colon cancer.²²

Vegetarians may also have lower mortality rates than nonvegetarians.²³ In fact, “[i]t is the position of the American Dietetic Association and Dietitians of Canada that appropriately planned vegetarian diets are healthful, nutritionally adequate, and provide health benefits in the prevention and treatment of certain diseases.”²⁴ That recommendation, which was based on a review of the scientific literature, also concluded that a vegetarian diet was appropriate for all stages of life, including childhood and adolescence.²⁵

Changing the procurement patterns of federal agencies has several strong policy benefits.²⁶ For one thing, it provides a clear signal to government suppliers that they are more likely to get government contracts if they engage in environmentally sustainable practices. Since the government is a large buyer, the effects of this benefit should be significant. Similarly, the policy should also stimulate innovation to the extent that suppliers compete with each other to provide the most environmentally-friendly product possible.

The signal to the market will be clearest if the government standard is firm, and enforceable by citizen suits. There are a number of ways such a standard could be created. For instance, it could say that federal agencies are not allowed to buy food that result in more than x units of GHG emissions. Or, it

²² American Dietetic Ass’n & Dietitians of Canada, *supra* note 19; Johanna T. Dwyer, *Health Aspects of Vegetarian Diets*, 48 Am. J. of Clinical Nutrition 712 (1988).

²³ Dwyer, *supra* note 22.

²⁴ American Dietetic Ass’n & Dietitians of Canada, *supra* note 19.

²⁵ *Id.* at 748, 755.

²⁶ The benefits discussed are drawn from Kelly Sims Gallacher *et al.*, *Policy Options for Reducing Oil Consumption and Greenhouse-Gas Emissions from the U.S. Transportation Sector*, Science, Technology and Public Policy Program and Environment and Natural Resources Program, Belfer Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University 11 (July 27, 2007); Jonathan Baert Wiener, *Global Environmental Regulation: Instrument Choice in Legal Context*, 108 Yale L.J. 677 (1998-1999).

could create a sliding scale of price versus environmental friendliness, with both receiving points that tally to determine the winning bidder. Whatever the mechanism, it should be clear, and enforceable.

The policy also should be relatively cost-effective. As noted above, there are ways that the government can take cost, as well as climate change, into account when making food procurement decisions. Additionally, low-GHG protein sources like chicken may actually be *less* expensive than high-GHG protein sources like beef. It is true that this proposal may carry transaction costs in the form of informational requirements. Those costs will likely fall on potential bidders. Bidders already swallow some reporting costs when applying to government contractors. Although the full extent of those costs cannot be determined without more factual information, it is unlikely to be prohibitively expensive. And those costs should not prevent small businesses from getting government contracts, because some government procurement procedures already give a preference to small business bidders.²⁷

Finally, because the proposed policy is based around the ends --- buy the product that contributes the least to climate change --- rather than the means, it is also relatively flexible. If information arises that a new type of protein, or protein production, is particularly environmentally-friendly, government buyers should easily be able to respond accordingly.

II. Regulatory Framework

A regulation that forces or encourages the consideration of environmental issues when making food purchasing decisions needn't be created out of whole cloth. The federal government already has many regulations governing its procurement decisions. Perhaps the most all-encompassing is the **Federal Acquisition Regulations (FAR)**.²⁸ FAR is used by federal agencies to make purchasing decisions.²⁹

²⁷ See Part II.

²⁸ Federal Acquisition Regulations, 48 C.F.R. § 1 (2009).

²⁹ U.S. Gen. Servs. Admin., *Federal Acquisition Regulation (FAR)*, at http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_BASIC&contentId=12999 (last reviewed Oct. 19, 2009).

FAR already mandates that agencies take some environmental considerations into account when making acquisition decisions. Section 23.703(a) requires agencies to “[I]mplement cost-effective contracting preference programs promoting . . . the acquisition of environmentally preferable products and services.”³⁰ Energy-efficiency and water conservation are listed as specific environmental goals, although climate change is not.³¹ Additionally, § 23.703(b) mandates that agencies employ acquisition strategies that implement various environmental objectives, including “maximize[ing] the utilization of environmentally preferable products and services (based on EPA-issued guidance),”³² “promot[ing] the use of nonhazardous . . . materials,”³³ and “realiz[ing] life-cycle cost savings.”³⁴ Section 23.7 does not specifically mention the acquisition of food, although other sections of FAR do.³⁵

Other regulations dictate additional acquisitions guidelines for specific areas of government. For instance, the **Richard B. Russell National School Lunch Act**³⁶ and the **Child Nutrition Act of 1966**³⁷ lay out requirements for school lunches and breakfasts.

The primary purpose of the Richard B. Russell National School Lunch Act was to establish the free and reduced lunch program funded by the federal government, and run by the states.³⁸ However, the Act also provides for the federal government to give funds to the states “to promote nutrition in food service programs.”³⁹ The Secretary of Agriculture also has direct funds available “for direct expenditure .

³⁰ 48 C.F.R. § 23.703(a).

³¹ *Id.*

³² 48 C.F.R. § 23.703(b)(1).

³³ 48 C.F.R. § 23.703(b)(4).

³⁴ 48 C.F.R. § 23.703(b)(5).

³⁵ *See, e.g.*, 48 C.F.R. § 32.903 (discussing payment protocol for meat food products).

³⁶ Richard B. Russell National School Lunch Act, 42 U.S.C. § 1751 (2009).

³⁷ Child Nutrition Act of 1966, 42 U.S.C. § 1771 (2009).

³⁸ 42 U.S.C. § 1753.

³⁹ 42 U.S.C. § 1754(a).

. . for agricultural commodities and other foods to be distributed among the States and schools and service institutions participating in the food service programs” under both this Act and the Child Nutrition Act of 1996.⁴⁰ The Secretary must also deliver to the State commodities for the school lunch program, and must “give special emphasis to high protein foods, meat, and meat alternates (which may include domestic seafood commodities and their products).”⁴¹ The amount of donated foods will be substantial, as at least 75% of assistance given to the states must be “in the form of donated foods for the school lunch program.”⁴² When making purchases, the Secretary cannot restrict participation of local producers, unless it will be advantageous to the food service programs authorized by this Act and the Child Nutrition Act.⁴³

The Secretary of Agriculture must prescribe minimum nutritional requirements to be met by school lunches.⁴⁴ The only statutorily required nutritional requirement is that schools offer fluid milk or a designated substitute.⁴⁵ The nutritional requirements must also reflect the Dietary Guidelines for Americans, a report that is published every five years which lays out nutritional guidelines to be promoted by federal agencies carrying out food or nutrition programs.⁴⁶ The 2005 Dietary Guidelines state that they are “applicable to the food preferences of . . . vegetarians.”⁴⁷ The Guidelines contain a section on accommodating the vegetarian diet which states that “[v]egetarians of all types can achieve recommended nutrient intakes through careful selection of foods.”⁴⁸

⁴⁰ 42 U.S.C. § 1755(a).

⁴¹ 42 U.S.C. § 1755(b)(D).

⁴² 42 U.S.C. § 1755(b)(E).

⁴³ 42 U.S.C. § 1755(a).

⁴⁴ 42 U.S.C. § 1758(a)(1)(A).

⁴⁵ 42 U.S.C. § 1758(a)(2).

⁴⁶ 42 U.S.C. § 1758(a)(4); 7 U.S.C. § 5341(a) .

⁴⁷ U.S. Dep’t of Health & Human Serv. & U.S. Dep’t of Agric., *Dietary Guidelines for Americans 2005*, at 3 (2005), available at <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2005/2005DGPolicyDocument.pdf>.

⁴⁸ *Id.* at 9.

The School Lunch Act does have some environmentally-friendly practices. For instance, it states that the Secretary shall encourage schools receiving funds from either this Act or the Child Nutrition Act to purchase locally grown foods.⁴⁹ The Act also reflects other policy goals, such as requiring the school to purchase, to the extent possible, domestic commodities.⁵⁰

The Child Nutrition Act of 1966 was designed to help the states meet the nutritional needs of children.⁵¹ The program established the School Breakfast Program, a complement to the school lunch program.⁵² As with the Richard B. Russell National School Lunch Act, the Secretary of Agriculture is charged with creating minimal nutritional requirements for the Act.⁵³ Additionally, schools must, to the extent practicable, use foods that either the Secretary has designated as “in abundance,” or foods donated by the Secretary.⁵⁴

The Act also establishes a special supplemental nutrition program for women, infants, and children, designed to provide nutritional information and food for disadvantaged women and their young children.⁵⁵ In conjunction with that program, the Secretary of Agriculture must provide “supplemental foods” that will be made available to participants.⁵⁶ The foods selected will “reflect nutrition science, public health concerns, and cultural eating patterns.”⁵⁷

⁴⁹ 42 U.S.C. § 1758(j).

⁵⁰ 42 U.S.C. § 1760(n)(2).

⁵¹ 42 U.S.C. § 1771.

⁵² 42 U.S.C. § 1773.

⁵³ 42 U.S.C. § 1773(e)(1).

⁵⁴ 42 U.S.C. § 1777.

⁵⁵ 42 U.S.C. § 1786(a).

⁵⁶ 42 U.S.C. § 1786(f)(11)(A).

⁵⁷ 42 U.S.C. § 1786(f)(11)(D).

The **Justice Acquisition Regulations (JAR)** describe procurement procedures for the Department of Justice (including the Federal Bureau of Prisons).⁵⁸ The regulations are intended to supplement, not replace, FAR.⁵⁹ The guidelines recommend that buyers procure recycled⁶⁰ and recovered⁶¹ materials, in compliance with EPA guidelines, but do not contain any other environmental requirements.

The **Bureau of Prisons Acquisition Policy (BPAP)**⁶² governs procurement for the Federal Bureau of Prisons.⁶³ It is intended to supplement JAR and FAR.⁶⁴ Like FAR, BPAP has specific regulations governing environmentally preferable products. BPAP also contains provisions on acquiring recycled material⁶⁵ and recovered materials,⁶⁶ but again does not contain any other environmental language.

The Department of Defense's procurement decisions are governed by the **Defense Federal Acquisition Regulation Supplement (DFARS)**, which supplements FAR.⁶⁷ DFARS is allowed to deviate from FAR when the Department of Defense is contracting with NATO countries or other allies

⁵⁸ Justice Acquisition Regulations, 48 C.F.R. § 2801.

⁵⁹ 48 C.F.R. § 2801.101.

⁶⁰ 48 C.F.R. § 2823.404-70.

⁶¹ 48 C.F.R. § 2823.403.

⁶² Federal Bureau of Prisons, Dep't of Justice, *Federal Bureau of Prisons Acquisition Policy*, May 19, 2004, at http://www.bop.gov/policy/progstat/4100_004.pdf.

⁶³ Federal Bureau of Prisons, Dep't of Justice, *Acquisition Regulations*, at <http://www.bop.gov/business/acquisition.jsp> (last visited Nov. 22, 2009) [hereinafter *BPAP*].

⁶⁴ *Id.* at 1.101(a).

⁶⁵ *Id.* at 23.404-70.

⁶⁶ *Id.* at 23.403.

⁶⁷ Defense Federal Acquisition Regulation Supplement, 48 C.F.R. § 201.104 (2009); 48 C.F.R. § 201.3.

that will not agree to the standard FAR clauses.⁶⁸ Senior procurement executives from the Air Force, Army, and Navy may also approve further deviations from FAR if they do not significantly affect internal operating procedures, have a significant cost or administrative impact, or diminish preference for small businesses.⁶⁹ The deviations also may not extend to other statutory requirements, or requirements imposed by other agencies (such as the Department of Labor).⁷⁰ No discussion is made on the allowable environmental impact of deviations. While sections of DFARS are reserved for contracting for environmentally preferable products and services, and other environmental provisions, there is no DFARS text on the matter.⁷¹

III. Options: Feasibility of Various Strategies

There are a number of ways to try to get agencies to consider the climate-change implications of food procurement decisions. Arguably, several of the FAR provisions already could apply to climate change and food products, in which case the Secretary of Agriculture (charged with buying food for schools), the Federal Bureau of Prisons, and the Department of Defense (charged with providing food for the military) could be sued for failure to follow FAR. A suit would be made under the Administrative Procedure Act (APA), under the theory that the various agencies were behaving arbitrarily and capriciously “or otherwise not in accordance with the law”⁷² by not following the procurement statutes. Plaintiffs could argue that GHG-intensive products are not “nonhazardous,” because they could bring about climate change.⁷³ Similarly, plaintiffs could argue that the life-cycle costs of GHG-intensive foods

⁶⁸ 48 C.F.R. § 201.403(2)(ii).

⁶⁹ *Id.*

⁷⁰ 48 C.F.R. § 201.403(2)(ii)(D).

⁷¹ *See, e.g.*, 48 C.F.R. § 223.7.

⁷² Administrative Procedure Act, 5 U.S.C. § 706(2)(A).

⁷³ *See* 48 C.F.R. § 23.703(b)(4).

include costs to the environment in the form of climate change.⁷⁴ One could also argue that the procurement of high GHG-foods does not constitute an “environmentally preferable product.”⁷⁵

A litigation strategy based on that approach would be unlikely to succeed. For one thing, even getting a court to hear the case would be very difficult. Actions against the government, including administrative agencies, must be brought within six years of the injury.⁷⁶ Almost all of the statutes and policies at issues here were issued more than six years ago: the Federal Acquisition Regulations were issued in 1974,⁷⁷ the Richard B. Russell National School Lunch Act in 1946,⁷⁸ the Child Nutrition Act of 1966 in 1966,⁷⁹ the Department of Justice Acquisition Regulations in 1985,⁸⁰ and the Defense Federal Acquisition Regulation Supplement in 1984.⁸¹ The one exception is the Bureau of Prisons Acquisition Policy, which was adopted on May 19, 2004,⁸² and thus narrowly avoids the statute of limitations cutoff.

Plaintiffs could attempt to argue here that the harm was not an agency *action*, but rather agency *inaction* (or failure to follow the statute), which has continued to persist and thus should not be barred by the statute of limitations. A similar claim was made in *West Virginia Highlands Conservancy v. Johnson*, in which plaintiffs alleged that Environmental Protection Agency failed to “study and report the environmental effects of coal mining and beneficiation waste” in contravention of a Congressional

⁷⁴ See 48 C.F.R. § 23.703(b)(5).

⁷⁵ See 48 C.F.R. § 23.703(b)(1).

⁷⁶ 28 U.S.C. § 2401(a).

⁷⁷ Office of Federal Procurement Policy Act of 1974, Pub. L. 93-400.

⁷⁸ Richard B. Russell National School Lunch Act, 79 Pub. L. 396, 60 Stat. 230.

⁷⁹ Pub. L. 69-642.

⁸⁰ 50 Fed. Reg. 4450 (Jan. 30, 1985).

⁸¹ 49 Fed. Reg. 11302.

⁸² *BPAP*, supra note 63.

directive.⁸³ According to the plaintiffs, each day “the agency continues to flout its regulatory obligations . . . a fresh violation has occurred.”⁸⁴ Unfortunately, the court did not accept the plaintiffs’ theory, and stated that the claim was time barred (the court did indicate that “plaintiffs are free to ask the D.C. Circuit to reconsider its case law,” but at this time the lower court’s opinion remains binding).⁸⁵

If the plaintiffs were not barred by the statute of limitations, they would next need to prove that they had standing to bring the case. Standing arguments that rely on climate change as the “concrete and particularized harm” have met mixed success in the courtroom. Plaintiffs in *Massachusetts v. EPA* did bring a successful standing claim based on climate change.⁸⁶ But the D.C. Circuit later said in *Center for Biological Diversity v. Dep’t of Interior* that *Massachusetts v. EPA* did not give citizens standing to sue on the *merits* of climate change, but only gave them procedural standing.⁸⁷ Thus, while plaintiffs might try to allege a harm in climate change, it would be unlikely that the case would be allowed to go forward merely on the grounds that the statute failed to protect the plaintiffs against climate change.

If the plaintiffs were able to demonstrate an injury in fact, another hurdle to pass would be demonstrating that the plaintiffs’ injuries were within the “zone of interests” protected by the statute, which is a requisite for standing.⁸⁸ The “zone of interest” requirement is not based in the Constitution, but is instead a prudential standing requirement.⁸⁹ The Supreme Court has stated that the “zone of

⁸³ 540 F.Supp.2d 125, 137--38 (D.D.C. 2008).

⁸⁴ *Id.* at 139.

⁸⁵ *Id.* at 143.

⁸⁶ 549 U.S. 497 (2007).

⁸⁷ 563 F.3d 466 (D.C. Cir. 2009). A case brought against federal agencies would almost certainly be brought in the D.C. district courts.

⁸⁸ *See, e.g., Ass’n of Data Processing Service Orgs., Inc. v. Camp*, 397 U.S. 150 (1970).

⁸⁹ *Clarke v. Securities Indus. Ass’n*, 479 U.S. 388 (1987); *Valley Forge Christian College v. Ams. United for Separation of Church & State*, 454 U.S. 464 (1982).

interests” test is most relevant in suits reviewing agency decisions under the APA.⁹⁰ Here, all of the procurement statutes state either a desire to ensure honest and open procurements, or in the case of the Richard B. Russell National School Lunch Act and the Child Nutrition Act of 1966, to ensure children receive adequate and nutritious meals. On its face then environmental plaintiffs would not be within the zone of interests contemplated by the statute. However, with the exception of the School Lunch Act, almost all of the statutes contain a provision ensuring environmental best practices.⁹¹ Thus, it is possible that plaintiffs could argue that the statutes were also intended to protect citizens who had an interest in procurement decisions being made in an environmentally friendly manner. This reading is reinforced by *National Credit Union Administration v. First National Bank & Trust Co.*, in which the Court said that plaintiffs need only demonstrate that a statute “arguably” protects their interests.⁹²

Plaintiffs may also try to argue that their injury is based not on climate change, but on some other harm. For instance, vegetarian inmates in federal prisons might argue that they are being forced to consume meat, and that were the various procurement measures being properly followed, they would not be forced to do so. (For the purposes of this discussion, we will leave aside factual considerations of whether such a scenario exists in federal prisons, or schools, or federal cafeterias, or any other place where governmental procurement is taking place).⁹³

The difficulty in such a case would be getting a court to accept that the plaintiffs’ injuries were within the zone of interests protected by the statute. The problem is that, as noted above, all of the procurement statutes state either a desire to ensure honest and open procurements, or to ensure children

⁹⁰ *Clark*, 479 U.S. at 400 n. 16 (“The principal cases in which the zone of interests test has been applied are those involving claims under the APA and the test is most usefully understood as a gloss on the meaning of § 702.”).

⁹¹ *See* Part II.

⁹² 522 U.S. 479 (1998).

⁹³ Evidence indicates that at least military personnel are able to get vegetarian meals upon request. *See* U.S. Army Natick, *Vegetarian Meals in the Meal, Ready-to-Eat* (2007), at <http://nsrdec.natick.army.mil/media/fact/food/Vegetarian.pdf>.

receive adequate and nutritious meals. A plaintiff's best argument would then be that vegetarian schoolchildren will not eat the meat they are provided, and thus if they are not provided with a meat alternative they will not be able to get a nutritious meal. That is a realistic problem, as the American Dietetic Association has asserted that "[f]ew public schools regularly feature vegetarian menu items. School lunches are not adequate for vegans even when some vegan options are available because soymilk can only be served as a part of school lunch in cases of documented lactose intolerance."⁹⁴ The problem is that then a plaintiff would be able to bring a challenge to the School Lunch Act, *not* to FAR (which is still not within their zone of interests).

A related problem is that even if the plaintiffs' interests *are* within the zone of interests contemplated by FAR, redressability is not guaranteed. The Supreme Court has said that in order to satisfy standing requirements, a plaintiff's injury must be "fairly traceable to the defendant's allegedly unlawful conduct and likely to be redressed by the requested relief."⁹⁵ That is less than certain here. The main problem is that this paper's proposal is not to eliminate meat from government meals, but rather to ensure the government considers the climate change consequences of its actions when making food procurement decisions. As a result, the protein selected might simply be chicken, instead of beef, which would not satisfy a vegetarian's injury.⁹⁶

Even if the plaintiffs did pass the standing hurdle, success in the case would be unlikely. While informal adjudications, such as procurement decisions, are not entitled to the highly deferential "Chevron" standard,⁹⁷ it is still entitled to some deference. The amount of deference varies with the

⁹⁴ American Dietetic Ass'n, *supra* note 19, at 750.

⁹⁵ *Allen v. Wright*, 468 U.S. 737, 751 (1984).

⁹⁶ Soybean growers would be able to satisfy redressability concerns if they brought a claim under the procurement statutes, since increased attention to food's environmental impact would likely increase sales of tofu. However, because soybean growers are almost certainly not within the zone of interest of any of the relevant statutes, such they are highly unlikely to be granted standing.

⁹⁷ *United States v. Mead*, 533 U.S. 218 (2001).

degree of the agency's care, consistency, formality, and relative expertness, and persuasiveness of the agency's position.⁹⁸

The "hazardous" argument will lose almost instantly, since hazardous items are specifically listed under 48 C.F.R. § 23.301, and greenhouse gases (and food, for that matter) are not on the list. The other claims are more plausible, but still unlikely to succeed. The *Skidmore* factors cut both ways here. While the agencies could be considered "experts" in buying for their respective entities, the fact that they did not write FAR suggests they are not experts in the legislation (which cuts against agency deference). Each purchasing decision is relatively formal, since it must comply with several procedural steps in both FAR and the more specific regulations enacted by each group (suggesting more agency deference). The agency's likely position is also fairly persuasive, since there is no evidence Congress intended the terms of FAR to apply to climate change. Thus, a plaintiff is unlikely to succeed in a claim against the respective agencies for not following FAR.

Another option is for plaintiffs to petition the agencies to amend their rules to specifically consider the GHG-intensity of various food products when making procurement decisions. There are a number of agencies that could review such a rulemaking petition: The U.S. General Services Administration, to amend FAR; the Department of Agriculture, for the Secretary to consider when making food and menu decisions under the Richard B. Russell National School Lunch and Child Nutrition Acts; the Department of Justice, to amend JAR; the Federal Bureau of Prisons, to amend BPAP; and the Department of Defense to amend DFARS (the Department of Defense would also need to state under 48 C.F.R. § 201.403(2)(ii) that deviations from DFARS are not permissible if they diminish the preferences for environmental goals, just as they currently do for small businesses).⁹⁹

⁹⁸ *Skidmore v. Swift & Co.*, 323 U.S. 134 (1944).

⁹⁹ One danger of rulemaking litigation that it is something of a double-edged sword; while it can be used by advocates to speed up rulemaking, it can also be used by opponents to slow it down. See Winston Harrington *et al.*, *Choosing Environmental Policy: Comparing Instruments and Outcomes in the United States and Europe* 246 (2004).

If the plaintiffs did decide to pursue a rulemaking petition, which they could submit under the APA, they would need to be prepared to wait a long time before receiving an answer. While it is possible that an agency would decide the rulemaking petition quickly, it might also remain silent on the matter.

Under the APA, courts can “compel agency action unlawfully withheld or unreasonably delayed.”¹⁰⁰ D.C. courts employ a five-part test to determine whether an agency’s delay is unreasonable: “(1) the time agencies take to make decisions must be governed by a ‘rule of reason;’ (2) where Congress has provided a timetable or other indication of the speed with which it expects the agency to proceed in the enabling statute, that statutory scheme may supply content for this rule of reason; (3) delays that might be reasonable in the sphere of economic regulation are less tolerable when human health and welfare are at stake; (4) the court should consider the effect of expediting delayed action on agency activities of a higher or competing priority; [and] (5) the court should also take into account the nature and extent of the interests prejudiced by delay.”¹⁰¹ Courts typically find a delay of at least five years to be unreasonable.¹⁰²

Courts often analyze factors (1) and (2) in conjunction with each other.¹⁰³ If the statute in question contains no express timetable for rulemaking petitions, courts have allowed a statute’s underlying policies to inform whether the delay is reasonable.¹⁰⁴ Here, the underlying goals of the statutes---to ensure honest procurement---do not argue for a quicker-than-normal decision.

¹⁰⁰ Administrative Procedure Act, 5 U.S.C. § 706(1) (2009).

¹⁰¹ *Telecomm. Research & Action Ctr. v. Fed. Commc’ns Comm’n*, 750 F.2d 70, 80 (D.C. Cir. 1984).

¹⁰² See, e.g., *In re Am. Rivers & Idaho United*, 372 F.3d 413, 419 (D.C. Cir. 2004); *Air Line Pilots Ass’n Int’l v. Civil Aeronautics Bd.*, 750 F.2d 81, 86 (D.C. Cir. 1984); *The Fund for Animals v. Norton*, 294 F.Supp.2d 92, 113 (D.D.C. 2003).

¹⁰³ See, e.g., *Beyond Pesticides/Nat’l Coal. Against the Misuse of Pesticides v. Johnson*, 407 F.Supp.2d 38 (D.D.C. 2005).

¹⁰⁴ See, e.g., *In re Int’l Chem. Workers Union*, 948 F.2d 1144 (D.C. Cir. 1992).

Courts have sometimes found that a danger to human health shortens the amount of delay that is reasonable.¹⁰⁵ Plaintiffs could argue that the absence of a specific food procurement rule increases the risk of climate change, which will contribute to degraded human health. However, a court is unlikely to find such an argument persuasive. Courts that have been influenced by the “human health” argument were typically facing more immediate risks to human health, such as a chemical that was known to be hazardous.¹⁰⁶ Since the risk to human health is slightly more attenuated here, a court is unlikely to be convinced by that argument.

Finally, courts will look to whether the agency has any higher priorities to attend to.¹⁰⁷ For at least some of the involved agencies, that factor will likely hurt the plaintiffs’ chances of success. Certainly the Department of Defense has very important priorities, which a court is likely to be persuaded by. Likewise, the Department of Justice and the Federal Bureau of Prisons could make a compelling argument that they have other priorities tied to keeping citizens safe. And the Department of Agriculture has many important priorities, including ensuring the nation receives safe and nutritious food. The plaintiffs’ best bet will be to focus on the General Services Administration, since the GSA’s other priorities revolve around contracting and procurement, which is arguably not more important than a procurement policy designed to help avert climate change.

If the agencies responded to the rulemaking petition by denying the petition, the plaintiffs would likely have little recourse. There is almost certainly nothing in any of the procurement statutes that requires the agencies to accept the rulemaking petition in question. Instead, the plaintiffs would need to argue that the denial of rulemaking violated the APA. The APA mandates that a reviewing court will

¹⁰⁵ See *Pub. Citizen Health Research Group v. Aucter*, 702 F.2d 1150 (D.C. Cir. 1983).

¹⁰⁶ *Id.* at 1153.

¹⁰⁷ *Telecomm. Research & Action Ctr. v. Fed. Comm’n Comm’n*, 750 F.2d 70, 80 (D.C. Cir. 1984).

“hold unlawful and set aside agency action, findings, and conclusions found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law.”¹⁰⁸

It is often difficult to succeed in an “arbitrary and capricious” claim. Typically, agencies are afforded a high level of deference.¹⁰⁹ Still, agencies must “examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made.”¹¹⁰ Whether or not plaintiffs could win an arbitrary and capricious claim depends on what arguments the various agencies advance to deny the rulemaking petition.

A claim under the National Environmental Protection Act (NEPA)¹¹¹ might have more success. NEPA states that government agencies must prepare an Environmental Impact Statement (EIS) for “major Federal actions significantly affecting the quality of the human environment.”¹¹² Here, plaintiffs could argue that the agencies’ procurement policies constitute a major Federal action that significantly affects the quality of the human environment.

The first hurdle plaintiffs would need to cross is the statute of limitations. As mentioned earlier, plaintiffs are typically barred from commencing civil actions against the United States after six years.¹¹³ Unfortunately, as noted above, with the exception of the Bureau of Prisons Acquisition Policy, almost all of the statutes and policies at issues here were issued more than six years ago.

Even though the statute of limitations for most of these statutes have passed, there may still be a way to compel agencies to complete EISs. Agencies must prepare supplemental EISs if they make substantial (and environmentally relevant) changes to the proposed action, or if there are “significant new

¹⁰⁸ Administrative Procedure Act, 5 U.S.C. § 706(2)(A).

¹⁰⁹ See *Motor Vehicle Mfrs. Ass’n v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).

¹¹⁰ *Id.*

¹¹¹ National Environmental Policy Act, 42 U.S.C. § 4321.

¹¹² 42 U.S.C. § 4332(C).

¹¹³ 28 U.S.C. § 2401.

circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.”¹¹⁴ Even if the original review is barred by the statute of limitations, the required supplement is not barred if it occurred within the statute of limitations.¹¹⁵ Therefore, if within the past six years the agencies have substantially amended the plans in ways that are relevant to environmental concerns, or if significant new information relevant to environmental concerns has come to light in that time, the claims may not be barred by the statute of limitations.

One could argue that new information on climate change constitutes “significant new information . . . relevant to environmental concerns,” since global warming was not a well-established scientific theory when many of these statutes and regulations were created. However, climate change has been well-documented for far more than the last six years. For instance, the Intergovernmental Panel on Climate Change has been around for over twenty years, and has been releasing assessment reports for almost as long.¹¹⁶

Another argument might be that, while information on climate change has been around for more than six years, information on the link between agriculture and climate change has not been. But still, the link between the two was not entirely known prior to 2004 (the statute of limitations cut off). For instance, in 2003 a Swedish study determined that raising beef on grass, instead of feed, “reduced greenhouse gas emissions by 40% and consumed 85% less energy.”¹¹⁷

The better argument for advocates is to identify which statutes have been amended within the past six years, resetting the statute of limitations. For instance, the Richard B. Russell National School Lunch

¹¹⁴ 40 C.F.R. § 1502.9(c)(1).

¹¹⁵ See, e.g., *Klamath Siskiyou Wildlands Ctr. V. U.S. Forest Serv.*, 2007 U.S. Dist. WL 1544756, at *6 (D. Or. 2007)

¹¹⁶ Intergovernmental Panel on Climate Change, *History*, at http://www.ipcc.ch/organization/organization_history.htm (Dec. 21, 2009).

¹¹⁷ Ian Sample, *Meat Production “Beefs Up Emissions,”* The Guardian (July 19, 2007), at <http://www.guardian.co.uk/environment/2007/jul/19/climatechange.climatechange>.

Act and the Child Nutrition Act of 1966 were amended on June 30, 2004,¹¹⁸ which would barely put it within the statute of limitations. The vital question is whether such regulations have been substantially amended in ways *that are relevant to environmental concerns*. In the case of the School Lunch and Child Nutrition Acts, the amendments most likely could not be said to have been relevant to environmental concerns. The primary changes of the 2004 amendments were procedural (for example, requiring local educational agencies to have a telephone number that families may call for help with free or reduced lunch verification).¹¹⁹ Since the amendments primarily dealt with verifying families receiving free or reduced lunches, and not with the amount of context of aid given by the federal government, it would likely not have retriggered the statute of limitations under 40 C.F.R. § 1502.9(c)(1).

On December 16, 2009, a bill was introduced to amend the School Lunch Act to improve meal access to young children in child care.¹²⁰ If the bill is passed, and if it significantly increases the amount of federal food procurement the Department of Agriculture engages in, then perhaps it will restart the statute of limitations in regards to the Richard B. Russell National School Lunch Act. In general, then, plaintiffs can choose to either bring a NEPA claim under the Bureau of Prisons Acquisition Policy, or monitor the Federal Register to see if any of the other statutes are significantly amended in a way that might be said to be relevant to environmental concerns.

If the statute of limitations does not bar the plaintiffs, they must demonstrate that procurement decisions constitute a major Federal action. Given the scale of government procurement, it is likely that procurement would be considered a major Federal action (even if only the procurement actions of each individual agency are reviewed).

¹¹⁸ Pub. L. 108-265.

¹¹⁹ 73 Fed. Reg. 76847, 76848 (Dec. 18, 2008).

¹²⁰ To Amend the Richard B. Russell National School Lunch Act to Improve Access to Nutritious Meals for Young Children in Child Care, H.R. 4402, 111th Cong. (2009-10).

For the second NEPA prong, the plaintiffs must argue that the Federal action significantly affected the quality of the human environment. Here, they could argue that the decisions significantly affect the quality of the human environment by contributing to climate change.

Some courts have already tackled the question of whether an EIS can be required for actions that will contribute to climate change, and increasingly, courts seem to be finding that it can. However, because this case would be challenging federal agency actions, suit would likely be brought in the D.C. Circuit; the D.C. Circuit has been less friendly towards cases in which climate change was the alleged basis for a NEPA suit.

D.C. Circuit standing requirements were laid out in *Florida Audubon Society v. Bentsen*.¹²¹ *Florida Audubon* stated that, to have standing, plaintiffs must demonstrate: (1) a particularized injury not shared by everyone else, and a geographical nexus between the challenged action and the plaintiff's injury; (2) that the injury results from an action affecting a "particularized environmental interest . . . that will suffer demonstrably increased risk;"¹²² (3) the injury is traceable to the government action; and (4) that it is "substantially probable" the action will cause the plaintiffs' injury.¹²³

It would be difficult for plaintiffs to demonstrate that they suffered a *particularized* injury as a result of climate change, since climate change will affect all people. Although the Supreme Court did grant standing on a climate change theory in *Massachusetts v. EPA*, the D.C. Circuit in *Center for Biological Diversity v. Department of Interior* stated that *Massachusetts v. EPA* was a very narrow holding: "*Massachusetts* stands only for the limited proposition that, where a harm is widely shared, a sovereign, suing in its individual interest, has standing to sue where that sovereign's individual interests are harmed, wholly apart from the alleged general harm."¹²⁴ Still, the Court's discussion of

¹²¹ 94 F.3d 658 (D.C. Cir. 1996).

¹²² *Id.*

¹²³ *Id.*

¹²⁴ 563 F.3d 466, 576--77 (D.C. Cir. 2009).

Massachusetts came in the context of its discussion of *substantive*, as opposed to *procedural* standing based on climate change. It is possible that a procedural theory of climate change would come out differently.

Biological Diversity did contain a procedural standing discussion; the Court also considered a NEPA climate change claim.¹²⁵ Plaintiffs argued that the Department of Interior's approval of a program to lease lands off the coast of Alaska for offshore oil and gas development failed to properly account for climate change.¹²⁶

Ultimately, the court dismissed the suit not because the plaintiffs had failed to demonstrate a particularized harm, but because the case was not ripe. While the leasing had been approved, no leasing had actually occurred when the suit had been brought, and thus was not at the "critical stage" where the government action would adversely affect the environment.¹²⁷ Plaintiffs have a good chance of overcoming those ripeness concerns here. The government is already taking affirmative steps---buying GHG-high goods---which could contribute to climate change. But even if the court did find the suit to be ripe, it is unclear if it would find that the plaintiffs had standing.

The trend in *other* circuits is to give plaintiffs standing in cases such as this. The Ninth and Tenth Circuits both reject the *Florida Audubon* standing inquiry. In *Committee to Save the Rio Hondo v. Lucero*, the Tenth Circuit explicitly deviated from *Florida Audubon*, and stated that "[t]o establish causation, a plaintiff need only show its increased risk is fairly traceable to the agency's failure to comply with the National Environmental Policy Act."¹²⁸ The Court also stated that the D.C. Circuit had misconstrued the causation prong, and that a plaintiff need only show an increased *risk of harm*.¹²⁹ The

¹²⁵ 563 F.3d 466 (D.C. Cir. 2009).

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ 102 F.3d 445 (10th Cir. 1996).

¹²⁹ *Id.*

court also moved away from *Florida Audubon's* immediacy requirements. Similarly, the Ninth Circuit rejected *Florida Audubon's* immediacy requirements in *Citizen's for a Better Forestry v. Department of Agriculture*.¹³⁰

Perhaps the most helpful case for plaintiffs is *Friends of the Earth v. Watson*, in which plaintiffs sued the Export-Import Bank of the United States and the Overseas Private Investment Corporation for failing to prepare a NEPA before loaning foreign countries money for building projects that might contribute to global warming.¹³¹ The plaintiffs were able to survive a standing challenge in summary judgment on their climate change theory.¹³²

Such decisions offer hope that courts will be increasingly willing to find a climate change injury sufficient to survive standing challenges. However, until the D.C. Circuit picks up on the trend in the Ninth and Tenth Circuits, plaintiffs are unlikely to survive a standing challenge on their NEPA claim.

Perhaps the simplest solution for plaintiffs is to encourage legislators to pass a bill requiring agencies to consider the climate change implications when making food procurement decisions. However, although this strategy would be much simpler than various litigation options, it is somewhat unlikely to be successful. As we have seen, Congress has difficulty passing legislation regarding climate change. Moreover, after the 2010 elections affect the balance of power in the House of Representatives and the Senate, legislation will likely become even more difficult to pass.

In addition to the standard legislative challenges of climate change legislation, there are unique challenges to passing the legislation in question. It might be politically unsavory to suggest that the government consider anything other than food quality when making procurement decisions for schoolchildren and soldiers. Although procurement decisions already consider other factors, such as cost and small business status of vendors, new legislation would still be open to political attack. That is

¹³⁰ 341 F.3d 961 (9th Cir. 2003).

¹³¹ 2005 WL 2035596 (ND Cal. 2005).

¹³² *Id.* The case eventually settled.

probably less true for procurement decisions by the Department of Justice and the Federal Bureau of Prisons, since prisoners groups are not a strong lobbying presence.

Quietly amending FAR might be the best bet, since the effects on procurement decisions in schools and the military might be less apparent with a general statute. While FAR is an agency document, Congress could still direct the General Services Administration to amend it.

IV. Policy Implications of Various Strategies¹³³

Assuming that the strategies above would be successful, each strategy has different policy benefits and drawbacks. Some of the policy implications are the same for all strategies. For instance, none protect and assist lower-income segments of society, although none harm low-income citizens, either.¹³⁴ Similarly, none will enhance the competitiveness of U.S.-based industry, although again, none should be detrimental to U.S. businesses' competitiveness abroad.

The strategies vary most noticeably in the extent to which they inform the public about climate change and procurement decisions, and in the tangible effects they have on the environment. A discussion of each follows.

A. Challenging Current Use of FAR

If this strategy were successful, it would require the agency to change its procurement process, and thus could have a tangible effect on the environment. Highly-publicized litigation could also be a useful way to highlight to the public the environmental effects of certain food products.

B. Proposed Rulemaking

¹³³ This section is informed by the policy goals discussed in Kelly Sims Gallacher *et al.*, *Policy Options for Reducing Oil Consumption and Greenhouse-Gas Emissions from the U.S. Transportation Sector*, Science, Technology and Public Policy Program and Environment and Natural Resources Program, Belfer Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University 11 (July 27, 2007).

¹³⁴ One could argue that certain members of society might be more likely to be federal government employees, and thus affected by this policy, than others. However, as noted in Part I, since the policy should not compromise the health of individuals, it thus should not burden any segment of society. In fact, to the extent that vegetarian or semi-vegetarian diets may be healthier, it could even benefit disadvantaged segments of society.

The largest benefit of a proposed rulemaking strategy is that it would require an agency to make a definitive change in its procurement strategies (at least ostensibly). It could also be a useful educational tool for those making procurement decisions, but would likely be of more limited value as an educational tool for the public.

C. NEPA Litigation

Perhaps the biggest benefit of NEPA litigation is that, if it is successful, it will force agencies to consider the environmental impact of food procurement decisions. If you ask the average citizen the best way to protect the environment, the likely answers would be “recycle,” “reduce electricity use,” and “drive less.” The impact of food choices is overlooked, but hugely significant. Requiring NEPA analyses could be a good way to bring the issue to the forefront of at least governmental actors’ minds.

In addition to its educational attributes, a required NEPA analysis might also have practical benefits. Producing Environmental Impact Statements is a lengthy and expensive process, and if they were required every time a large amount of meat was procured, the burden might be significant enough to discourage agencies from buying items high in GHGs.

That benefit, however, is tied closely to the biggest drawback of NEPA litigation. NEPA does not actually require agencies to take environmentally beneficial action based on the results of their Environmental Impact Statements. The agencies’ obligation is satisfied once it produces the EIS, so it is possible that the litigation will have no real impact on agencies’ procurement decisions. A strategy that requires some positive agency action might be more beneficial.

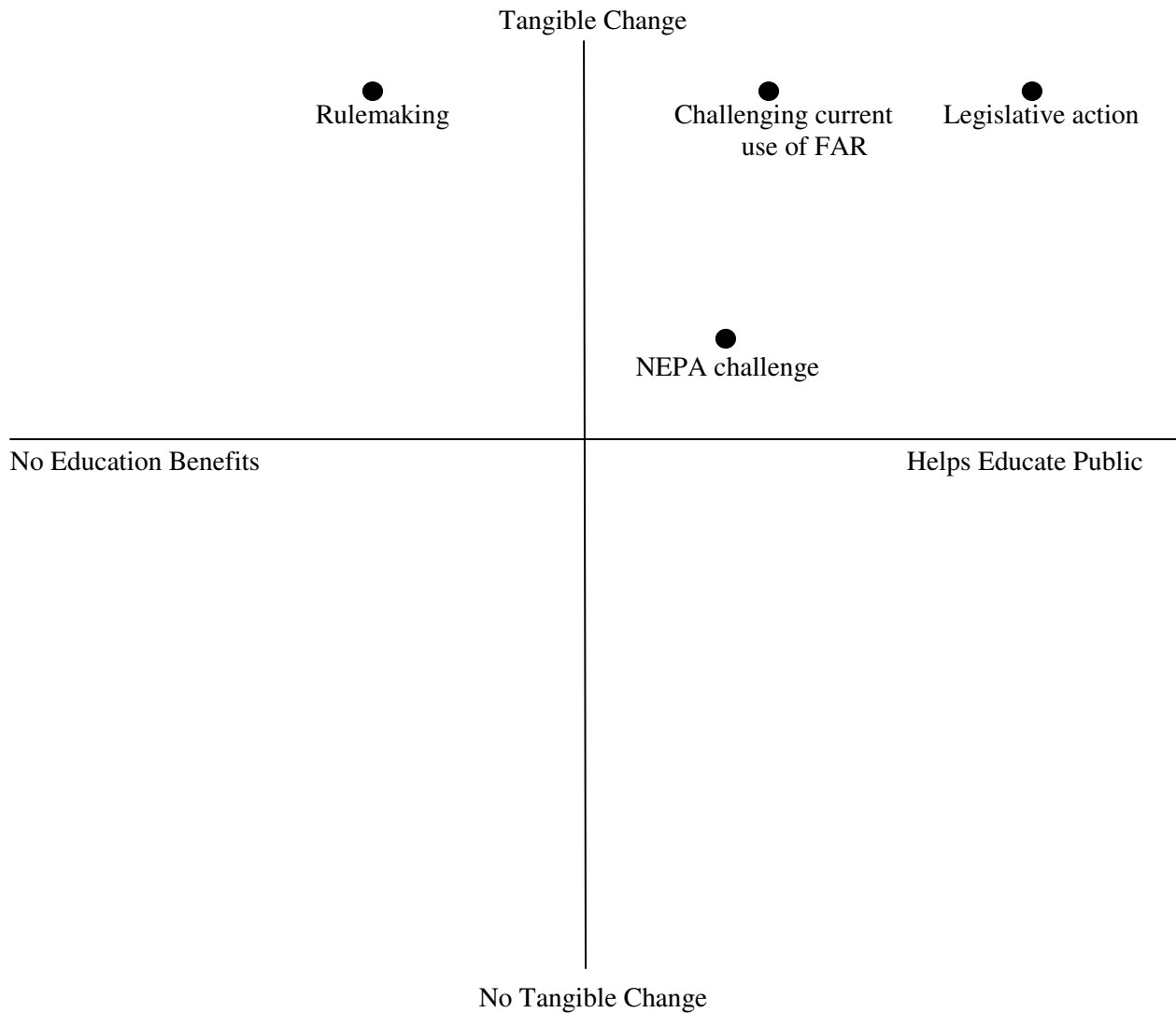
D. Legislative Action

As with the most of the other strategies, this option should also change the procurement strategies of federal agencies and result in reduced consumption of foods such as red meat that can be detrimental to the environment. But the primary benefit of this approach is that, of all of these strategies, successful legislative action would probably be the most useful for education the public on the effect various food

products can have on the environment, and their role in climate change. Legislative action should generate public debate, and would likely be reported in the news media, leading to free public awareness.

E. Policy Summary

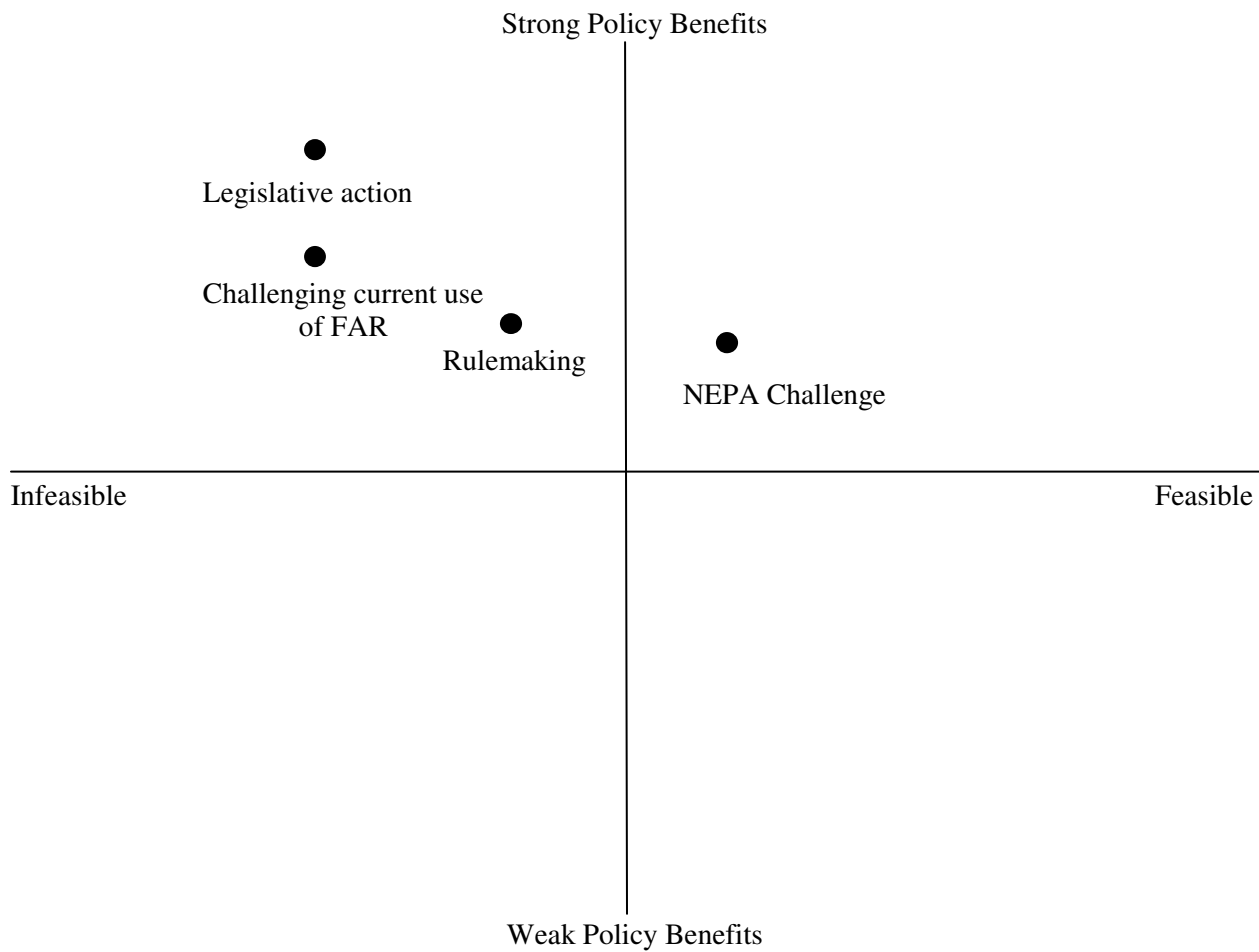
The following chart shows where all of the potential strategies fall on a range of policy benefits.



Conclusion

With climate change progressing quicker than ever, it is incumbent upon governments and citizens to do as much as policy to mitigate that progression. Recently, a clear link has been shown

between agricultural activities and climate change. Given that link, one way to help fight climate change is to make food decisions based on each food item’s contribution to climate change. Given the immense amount of procurement performed by the federal government, a federal food procurement strategy that takes into account environmental factors such as climate change could be significant in abating climate change. Potential plaintiffs have a variety of options for seeing this strategy come into existence. The goal for potential plaintiffs is to balance the mix of policy goals with the feasibility that each strategy will be achieved. The following table summarizes the two factors.



Legislative action is considered one of the least likely strategies, given the current division of the House and Senate and Congress’s seeming inability to put together environmental plans. The strength of the agricultural lobby also makes this strategy less likely. Challenging the current use of FAR is also

considered relatively unlikely, given the statute of limitations and standing challenges, and the fact that the text of FAR is not blatantly inconsistent with its current use.

Rulemaking is considered slightly more likely, because a friendly agency may agree to the suggested rules, but is still placed on the “infeasible” side because of the difficulty plaintiffs would have challenging an agency’s decision not to act. Finally, a NEPA suit is considered most likely because the procurement statutes may still be amended in a way that would restart the statute of limitations, and because plaintiffs have been increasingly successful bringing climate change claims under NEPA.

Unfortunately, however, there seems to be an inverse correlation between how feasible a strategy is, and what policy benefits would come from it. It is up to potential plaintiffs to weigh the costs of such actions, and decide how their resources would be best allocated.

Appendix

FIGURE 1: Role of Livestock in Carbon Dioxide, Methane, and Nitrous Oxide¹³⁵

Gas	Source	Mainly related to extensive systems (10 ⁹ tonnes CO ₂ eq.)	Mainly related to intensive systems (10 ⁹ tonnes CO ₂ eq.)	Percentage contribution to total animal food GHG emissions
CO₂	Total anthropogenic CO₂ emissions	24 (-31)		
	Total from livestock activities	-0.16 (-2.7)		
	N fertilizer production		0.04	0.6
	on farm fossil fuel, feed		-0.06	0.8
	on farm fossil fuel, livestock-related		-0.03	0.4
	deforestation	(~1.7)	(~0.7)	34
	cultivated soils, tillage		(~0.02)	0.3
	cultivated soils, liming		(~0.01)	0.1
	desertification of pasture	(~0.1)		1.4
	processing		0.01 – 0.05	0.4
	transport		-0.001	
CH₄	Total anthropogenic CH₄ emissions	5.9		
	Total from livestock activities	2.2		
	enteric fermentation	1.6	0.20	25
	manure management	0.17	0.20	5.2
N₂O	Total anthropogenic N₂O emissions	3.4		
	Total from livestock activities	2.2		
	N fertilizer application		~0.1	1.4
	indirect fertilizer emission		~0.1	1.4
	leguminous feed cropping		~0.2	2.8
	manure management	0.24	0.09	4.6
	manure application/deposition	0.67	0.17	12
indirect manure emission	~0.48	~0.14	8.7	
Grand total of anthropogenic emissions		33 (-40)		
Total emissions from livestock activities		-4.6 (-7.1)		
Total extensive vs. intensive livestock system emissions		3.2 (-5.0)	1.4 (-2.1)	
Percentage of total anthropogenic emissions		10 (~13%)	4 (~5%)	

Note: All values are expressed in billion tonnes of CO₂ equivalent; values between brackets are or include emission from the land use, land-use change and forestry category; relatively imprecise estimates are preceded by a tilde.

Global totals from CAIT, WRI, accessed 02/06. Only CO₂, CH₄ and N₂O emissions are considered in the total greenhouse gas emission.

Based on the analyses in this chapter, livestock emissions are attributed to the sides of the production system continuum (from extensive to intensive/industrial) from which they originate.

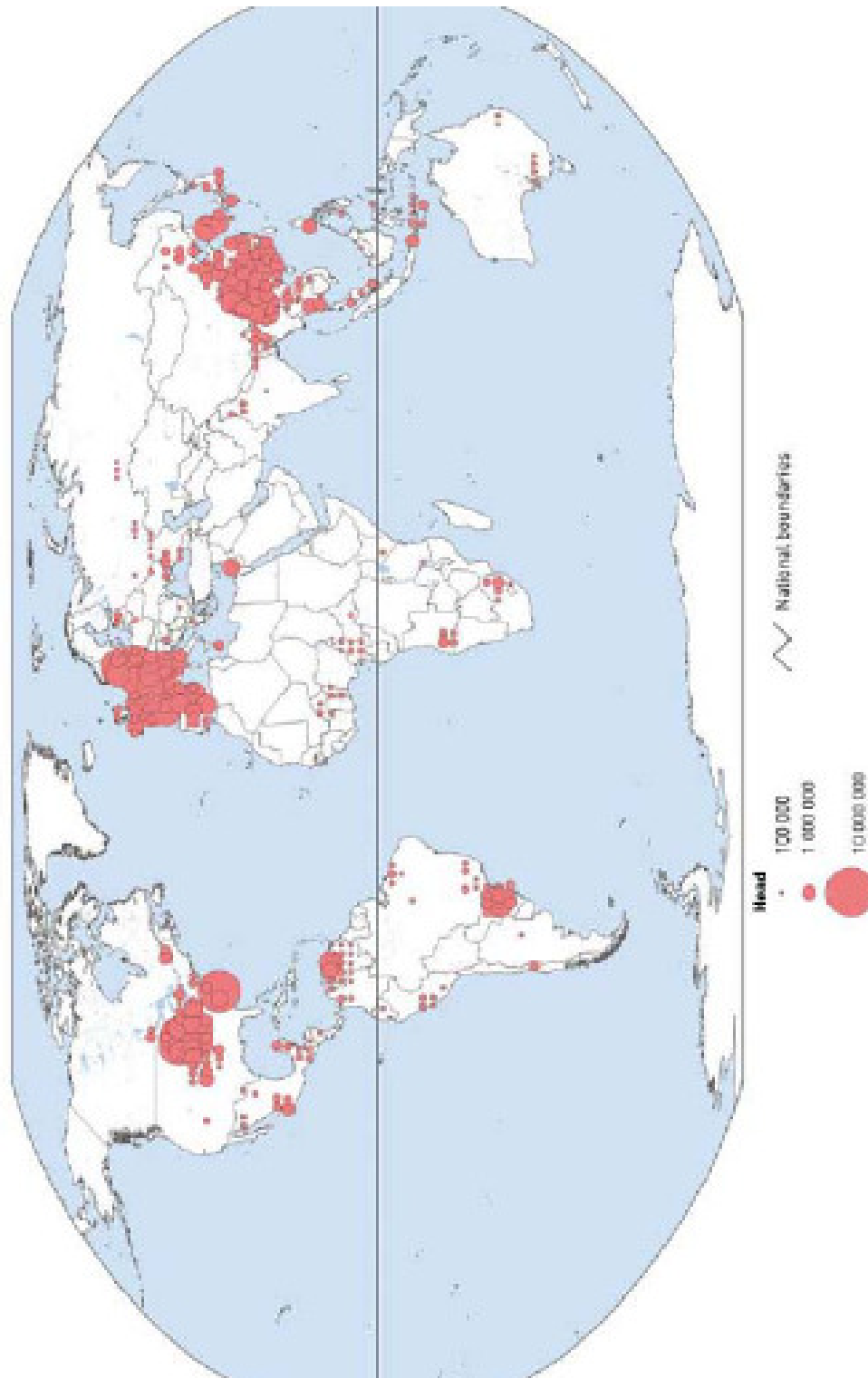
¹³⁵ FAO, *Livestock's Long Shadow*, supra note 2, at tbl.3.12.

FIGURE 2: Global Facts About Livestock¹³⁶

Dimension	Parameter	Value	Remarks
Economic importance^a	Contribution to total GDP (2005)	1.4 percent	
	Contribution to agricultural GDP (2005)	40 percent	
	Growth rate (1995 to 2005)	2.2 percent p.a.	
	Contribution to agricultural export earnings (2004)	17 percent	
Social importance^b	Number of poor engaged in livestock activities	987 million	Full time or partially
	Total number of people engaged in livestock production	1 300 million or 20 percent of world population of 6.5 billion	Full time or partially
Food security^c	Human edible protein supplied to livestock ¹	77 million tonnes	
	Human edible protein supplied by livestock ¹	58 million tonnes	
Health^c	Contribution to total dietary intake of energy ^d	477 kcal per person/day or 17 percent of average daily intake	
	Contribution to total dietary intake of protein ^d	25 g per person/day or 33 percent of average daily intake	
	People suffering from under or malnourishment ²	864 million	Livestock products are a possible remedy
	Number of overweight persons ²	1 000 million	Livestock products are one of the major causes
	People suffering from obesity ²	300 million	Livestock products are one of the major causes
Environment: land^e	Total land for grazing	3 433 million ha or 26 percent of terrestrial surface	
	Grazing land considered degraded	20 to 70 percent	
	Total land for feed crop cultivation ⁴	471 million ha or 33 percent of arable land	
Environment: air and climate⁵	Livestock's contribution to climate change in CO ₂ equivalent	18 percent	Incl. pasture degradation and land use change
	Livestock's share in carbon dioxide emissions	9 percent	Not considering respiration
	Livestock's share in methane emissions	37 percent	
	Livestock's share in nitrous oxide emissions	65 percent	Including feed crops
Water⁵	Share of livestock in total use of freshwater	8 percent	Drinking, servicing, processing and irrigation of feed crops
	Share of livestock in water evapotranspired in agriculture	15 percent	Evapotranspiration for feedcrops production only; other factors significant but not quantifiable

¹³⁶ Id. at tlb.7.1.

FIGURE 3: Estimated Distribution of Industrially Produced Pig Populations¹³⁷



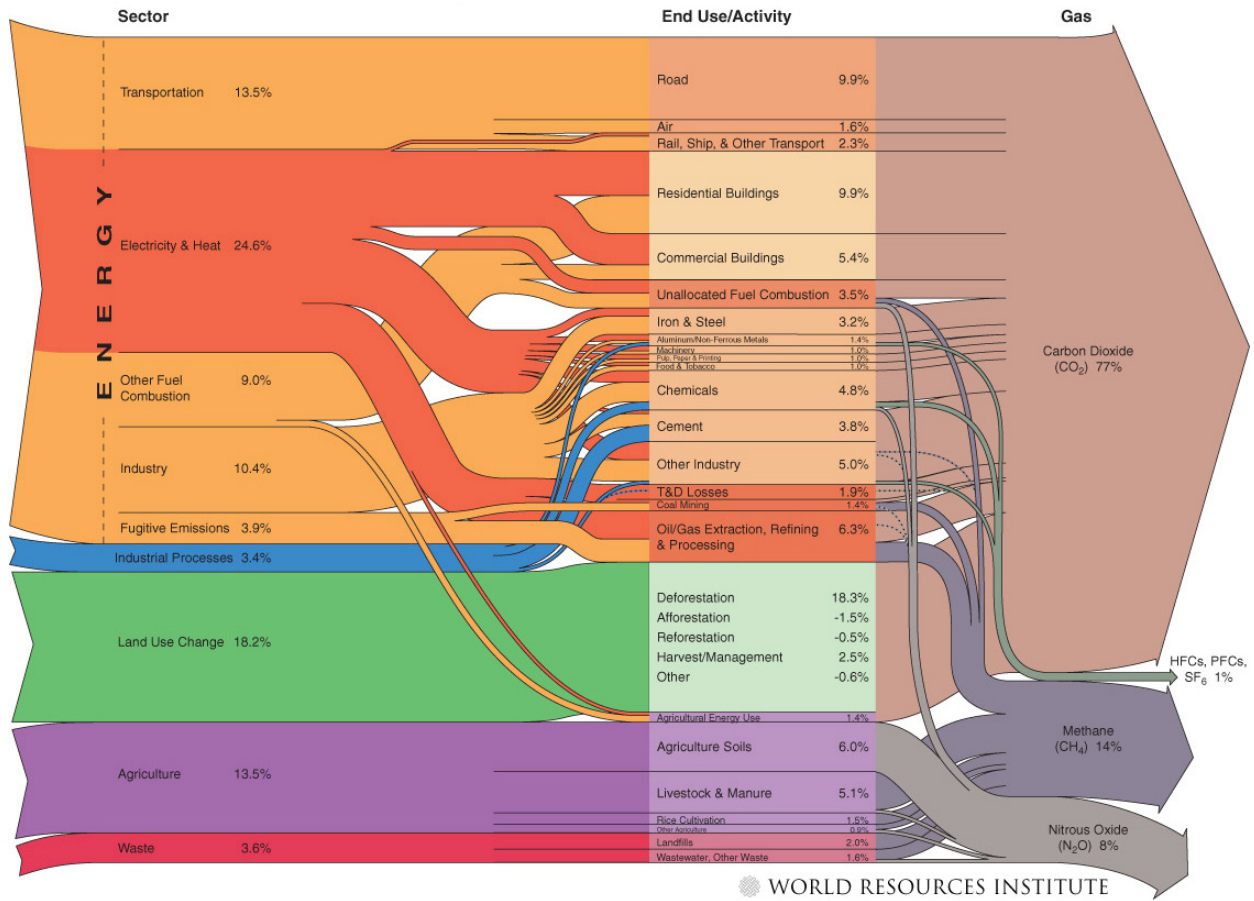
¹³⁷ Id. at map 15. “The industrial [pig] populations result from the difference between the local total population and the locally estimated land-based system held population.” Id.

FIGURE 4: Estimated Distribution of Industrially Produced Poultry Populations¹³⁸



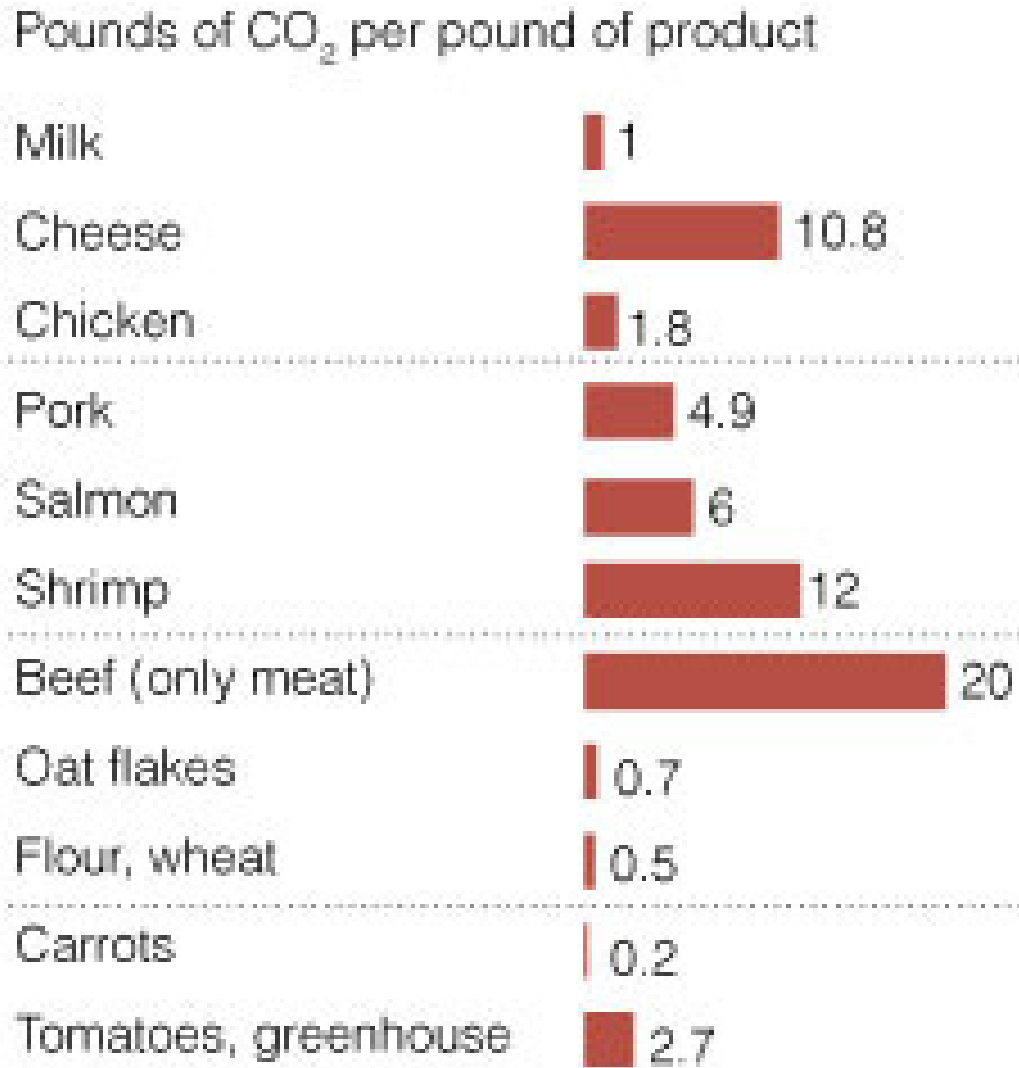
¹³⁸ Id. at map 14. “The industrial poultry populations result from the difference between the local total population and the locally estimated land-based system held population.” Id.

FIGURE 5: World GHG Emissions Flow Chart¹³⁹



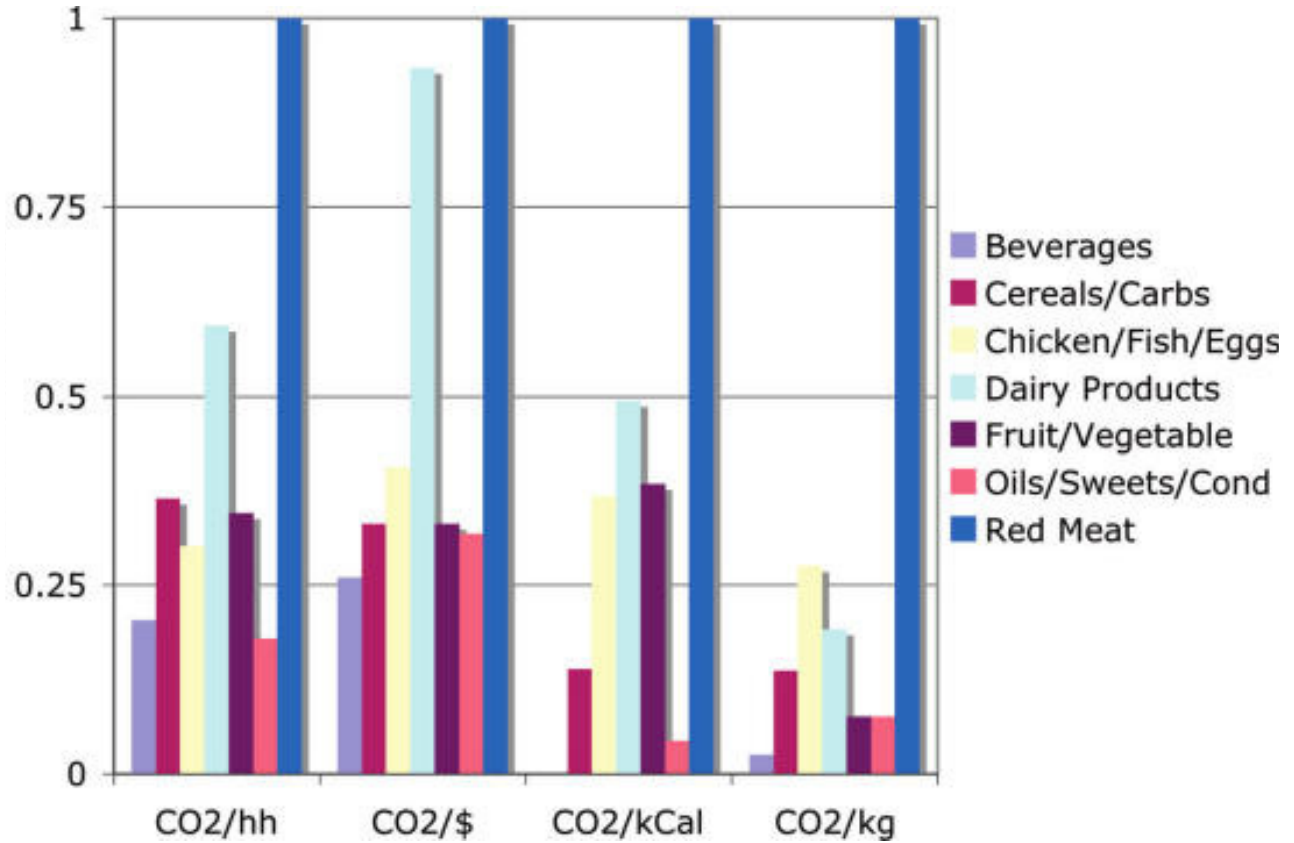
¹³⁹ WRI, *Navigating the Numbers*, supra note 5, at 4-5. For the source of the above figures, see *Id.* at app. 2.

FIGURE 6: CO₂ Produced by Food¹⁴⁰



¹⁴⁰ Rosenthal, supra note 8, at A1 graphic.

FIGURE 7: Relative Intensity of Food Products¹⁴¹



¹⁴¹ Weber & Matthews, supra note 11, at 3 fig.2 (“Comparison of normalization factors for total GHG of food. From left to right: no normalization (t CO₂e/hh-yr), by expenditure (g CO₂/\$1997), by energy content (g CO₂e/kCal) and by mass (kg CO₂e/kg). All values are shown relative to the value of red meat (2500 kg CO₂e/yr, 2.4 kg CO₂e/\$, 10.8 g CO₂e/kCal, 22.1 kg CO₂e/kg”).