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FOOD MILES: ENVIRONMENTAL PROTECTION OR VEILED PROTECTIONISM?†

*Meredith Kolsky Lewis**
*Andrew D. Mitchell***

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INTRODUCTION

Eat local. Such a small phrase yet such a loaded proposition. Buying food from nearby sources has become a popular objective. This aim is associated with helping farmers in one's country or region; observing the seasonality of one's location; eating fresher foods; striving for food security; and protecting the environment. One of the unmistakable messages of the "locavore" movement is that importing food—particularly food that comes from far away—causes environmental harm. The theory is that transporting food long distances results in the release of high levels of greenhouse gases (GHGs) into the atmosphere and is thus a dangerous contributor to climate change. Proponents of this view therefore argue that "food miles"—the distance food travels from farm to plate—should be kept to a minimum. Farming interests in countries that import significant amounts of agricultural products have sought regulations to differentiate between foods based on how far they have travelled. And some supermarkets, particularly in Europe, have been utilizing differential labeling, such as placing an airplane sticker on produce that has been air shipped. The overwhelming implication, then, is that the farther food travels from farm to plate, the more environmental harm is caused.

The problem is that, in reality, food miles are a poor proxy for environmental harm. Studies have demonstrated that differences in farming methods as well as natural factor endowments can mean that growing some products locally may in fact result in more GHG emissions than importing those same products. Notwithstanding this disconnect, some countries have considered legislation relating to food miles. Were a government to legislate discrimination on the basis of food miles, or to otherwise endorse such a policy through its actions, it could be vulnerable to a World Trade Organization dispute resolution challenge. Even if food miles labeling were to fall outside the WTO's purview due to insufficient government involvement, it would nonetheless raise important issues of fairness and justice. Such concerns arise for developing countries that rely upon the revenue from food exports and whose overall carbon emissions are miniscule compared to those of developed countries, as well as for farmers that ship their products long distances while having an overall environmental impact comparable to, or lesser than, local producers. Using a

life cycle analysis to assess the carbon footprint of products resolves some, but not all of these concerns, while implicating additional difficulties.

This article examines the international trade law, environmental, and development implications of campaigns to convince consumers to make food purchases based on food miles. In Part I, we explain in more detail the term “food miles,” and how the concept has been used around the world. Part II addresses the use of food miles as an indicator of environmental harm. We argue that food miles are, in fact, a poor proxy of such harm and therefore should not be used. Part III considers whether food miles labeling currently in use, as well as legislation politicians have proposed in, inter alia, Sweden and the United Kingdom, could be successfully challenged through a WTO dispute settlement proceeding. This Part addresses potential actions under the Technical Barriers to Trade (TBT) Agreement, the General Agreement on Tariffs and Trade (GATT), and the Subsidies and Countervailing Measures (SCM) Agreement, as well as the availability of any exceptions. Our TBT analysis takes into account the three 2012 Appellate Body decisions addressing the TBT Agreement, *U.S.—Clove Cigarettes*; *U.S.—Country of Origin Labeling (U.S.—COOL)*; and *U.S.—Tuna II (Mexico)*. We also consider the extent to which labeling schemes based on food miles may fall outside the scope of WTO commitments. In Part IV, we address the implications that reducing food miles may have for developing countries. Additionally, we examine and critique alternatives to food miles for those wishing to reduce greenhouse gas emissions through farming and food consumption. In particular, we discuss the use of life cycle analyses to measure carbon emissions as well as the impact of changes in diet, farming methods, and modes of transportation.

I. THE FOOD MILES CONCEPT

The concept of “food miles”—or the distance foods travel from their point of origin to their point of consumption—has been around for many years¹; however it has only more recently captured widespread attention. Assessments of the factors contributing to the earth’s global warming problem reflect that air transport (of passengers as well as freight) accounts for a significant volume of GHG emissions. Thus, it is perhaps not surprising that a range of commentators have argued that long-distance shipping of foods, particularly via air-freighting, equates to environmental harm.² The narrative has increasingly developed into one that focuses largely on the distance food travels (food miles), rather than the method of travel or other variables that affect the GHG emissions associated with the shipment of the food. It encourages communities to buy their food

1. Tim Lang, now a professor at City University in London, is said to have coined the expression with colleagues in 1991 for a television documentary. See Tim Lang, *Origin Unknown*, THE GUARDIAN (Aug. 3, 2005), <http://www.guardian.co.uk/politics/2005/aug/03/green-politics.foodanddrink>.

2. E.g., DELOITTE, AN APPETITE FOR CHANGE: FOOD AND BEVERAGE 2012 13 (2007) (“Air freight has a high carbon footprint relative to the real benefits to the consumer and there is a growing view that such foods should be clearly labelled.”).

locally when possible, on the theory that doing so will result in lower GHG emissions than buying imported foods. Accordingly, food shipped long distances—for example from Australia or New Zealand to Northern Hemisphere markets—is associated with a high level of food miles and with harming the environment to a higher extent than does sourcing foods from closer locales.

The equation of food miles with environmental harm has led to advertising campaigns, retail and labeling distinctions, policy decisions and proposals, and social movements designed to encourage purchase and consumption of locally grown and sourced foods instead of those that have been imported from afar or have been air-freighted.

A. Advertising

In the United Kingdom, food miles have figured prominently in advertising. For example, the British butter company Dairy Crest launched a multimillion-dollar advertising campaign based on the food miles concept to urge U.K. consumers to buy its Country Life brand instead of the New Zealand dairy company Fonterra's Anchor brand.³ Dairy Crest's advertisements depicted New Zealand's butter exports as traveling via soot-belching ships.⁴ The advertisements suggested that Anchor butter was of lower quality and that it caused more environmental damage because it traveled nearly 18,000 kilometers to get to the U.K. market.⁵ In addition, many websites promote the food miles message. In 2006, the Farmers' Weekly website initiated a campaign with the message 'Local food is miles better.'⁶ The website of the Australian environmental group "Environment Victoria" asserts:

In wealthy countries like Australia, we have a bad habit of eating food that has been grown on the other side of the world. If your oranges were grown in California, they have travelled over 12,000 km to get to you. If they got here by boat, they've sent a lot of greenhouse gas into our atmosphere—even more if they got here by plane. . . . By eating locally produced food, instead of food with high food miles, you can make a positive difference to our environment.⁷

B. Retail Measures

Even large-scale retailers have embraced the food miles concept. In 2007, major U.K. retailers Tesco and Marks & Spencer began placing air-

3. *Food Miles: No Export Impact*, RURAL NEWS, Oct. 3, 2006.

4. *Id.*

5. *Id.*

6. E.g., John Ballingall & Niven Winchester, *Food Miles: Starving the Poor?*, 33 WORLD ECON. 1201, 1202 (2010).

7. *Eating the Planet*, ENVIRONMENT VICTORIA, <http://environmentvictoria.org.au/content/eating-planet> (last visited May 15, 2014).

plane stickers on produce that has been air freighted.⁸ U.S. retail giant Walmart has also sought to appeal to consumers wishing to “buy local.” Walmart’s website indicates the chain has a policy of buying from local growers, and that it uses a “food miles calculator” so that its buyers can “enter information on each supplier and product, determine product pickup locations and select which of our 38 food distribution centers the product will reach. With this information, the calculator computes the total food miles, which the buyer can use when making buying decisions.”⁹ Walmart has also instituted a program “to reduce food miles” that is encouraging producers to grow produce in new areas, such as corn in Mississippi and cilantro in Southern Florida.¹⁰

C. Governmental and Non-governmental Policies

Several governments are providing support for initiatives designed to increase local food production and consumption. In 2009, Sweden planned to launch a “buy local” component to its Climate Smart Food Programme until the European Commission challenged the plan and asked Sweden to change it.¹¹

Furthermore, some politicians have suggested imposing differential taxes on food based on food miles. Former British Transport minister Stephen Byers has suggested the imposition of a tax based on the distance food travels. As an example, he said that air freighting a kilogram of kiwifruit to Great Britain results in the production of five kilograms of carbon dioxide.¹² This example, while in fact inaccurate—kiwifruit are shipped by boat rather than air freighted—nonetheless captured international attention.

Also within the United Kingdom, the organic standards-setting body, the Soil Association, reviewed its standards in 2008 and initially recommended a change that it would no longer certify air-freighted produce as organic unless it also met additional ethical or fair trade standards not required of non-air-freighted produce.¹³ This proposed standard would have had the practical effect of preventing air-freighted produce from

8. LINDSAY HOGAN & SALLY THORPE, ISSUES IN FOOD MILES AND CARBON LABELLING 14 (Dec. 2009) [hereinafter ABARE Report], available at http://143.188.17.20/data/warehouse/pe_abarebrs99001677/foodmiles.pdf.

9. *Walmart Produce: Our Commitment to You*, Walmart, <http://instoresnow.walmart.com/article.aspx?Center=Food&top=87508&id=44214> (last visited May 15, 2014).

10. *Id.*

11. The European Commission’s concern was over the free movement principles of the European Union; however, Sweden’s motivations appear to have been based on the view that buying local foods would be good for the environment. See *Commission Halts Swedish Buy Local Climate Campaign*, AGRA EUROPE, Sept. 18, 2009, cited in CHRISTOPHER BARCLAY, STANDARD NOTE, FOOD MILES, June 2012, H.C., SN/SC/4984, at 8–9 (U.K.), available at <http://www.parliament.uk/briefing-papers/SN04984.pdf>.

12. Greg Meylan, *Emission Impossible*, SUNDAY STAR TIMES, Nov. 5, 2006, at A9.

13. Els Wynen & David Vanzetti, *No Through Road: The Limitations of Food Miles 1* (Asian Dev. Bank Inst., Working Paper No. 118, Oct. 2008), available at http://www.adbi.org/files/2008.10.wp118_limitations.food.miles.pdf.

bearing the organic label. Ultimately, after pressure from major supermarket chains, the Soil Association retreated from this position, choosing only to monitor the air freighting of produce but not to link it to labeling requirements.¹⁴ However, it remains the position of many in the organic food movement that “organic” should symbolize “sustainable” as well as organic production methods.¹⁵

In the United States, numerous government programs encourage local food production and consumption. These include a U.S. Department of Agriculture (USDA) program that provides low-income individuals with vouchers to use at local food purveyors such as farmers markets and roadside stands; federal legislation requiring the USDA to provide schools with funding or other assistance to enable them to include local foods in their subsidized meal programs; and a USDA initiative to encourage the creation of local food systems.¹⁶

In November 2013, the Canadian province of Ontario passed a Local Food Act.¹⁷ The Act’s objectives are to “foster successful and resilient local food economies and systems in Ontario, help increase awareness of local food in Ontario and develop new markets for local food.”¹⁸

These programs appear (at least in the United States and Canada) to be designed primarily to provide economic opportunities and to assist the disadvantaged rather than to reduce greenhouse gas emissions. Nonetheless, these government policies will have the effect of enhancing local food production even though doing so may have detrimental effects on agricultural producers from Africa and other regions. Local food production may also mean that a significant share of the transport of such food will be carried out by the use of passenger vehicles carrying small quantities of produce. Thus, this government assistance may result in more GHG emissions per item from transport than would be implicated by the bulk shipment of the same item by rail or boat of foods from further afield.

Non-governmental organizations (NGOs) have also jumped onto the food miles bandwagon. The Natural Resources Defense Council, an environmental NGO, has headlined one of its publications, “Food miles: How far your food travels has serious consequences for your health and the

14. Soil Association “Gives in” to Supermarket Lobby over Air-freighted Organic Food, DAILY MAIL (Jan. 27, 2009, 2:21 PM), <http://www.dailymail.co.uk/news/article-1129984/Soil-Association-gives-supermarket-lobby-air-freighted-organic-food.html>.

15. BARCLAY, *supra* note 11, at 6–7.

16. For additional examples of federal and state legislation and other initiatives to encourage local food movements, see Lauren Kaplin, *Energy (In)Efficiency of the Local Food Movement: Food for Thought*, 23 FORDHAM ENVTL. L. REV. 139, 145-48 (2012); Derrick Braaten & Marne Coit, *Legal Issues in Local Food Systems*, 15 DRAKE J. AGRIC. L. 9, 22–32 (2010).

17. Legislative Assembly of Ontario, Bill 36, Local Food Act, 2013, available at http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=2754.

18. Ontario Ministry of Agriculture and Food, Local Food Act, 2013, available at <http://www.omafra.gov.on.ca/english/about/localfood.htm>.

climate.”¹⁹ The report concludes that “all else being equal—locally grown foods are a better choice.”²⁰ The buy local movement has even garnered support in Australia, where many exporters are affected by food miles campaigns elsewhere. The Australian Food Sovereignty Alliance has released a “People’s Food Plan” that calls for Australians to source and process 80 percent of all Australian food within 150 kilometers of its point of consumption,²¹ and is currently pushing for the legislation of a local food act akin to that passed in Ontario, Canada.²²

D. Social Movements and Food Miles

The food miles concept is often employed by individuals and organizations that seek to promote the consumption and production of organic and local foods and to minimize environmental harm. For example, the website *Food Miles*, introduces its food miles calculator by explaining: “Food miles are a way of attempting to measure how far food has travelled before it reaches the consumer. It is a good way of looking at the environmental impact of foods and their ingredients.”²³ The website *Climate Choices—Children’s Voices*, aimed at teaching children to make environmentally friendly decisions, asserts: “Reducing food miles can have a dramatic effect on reducing carbon dioxide emissions.”²⁴

Concern about the connection between the distances foods travel and harm to the environment has also reached popular culture. Mainstream author Barbara Kingsolver’s book *Animal, Vegetable, Miracle: A Year of Food Life* identifies a variety of harms caused by long-distance shipping of foods.²⁵ Restaurants routinely tout their use of local purveyors, and the food miles concept has also led to the opening of restaurants that cater to so-called “locavores” who favor eating only locally-grown products,²⁶ and

19. *Food Miles: How Far Your Food Travels Has Serious Consequences for Your Health and the Climate*, NATURAL RESOURCES DEFENSE COUNCIL (Nov. 2007), <http://food-hub.org/files/resources/Food%20Miles.pdf>.

20. *Id.* at 1. But the NRDC concedes that “[w]e did not attempt a full lifecycle assessment of all climate and air impacts.” As such, all else is not equal.

21. Adrienne Francis, *Australians Urged to Eat Local Foods*, ABC NEWS (Nov. 12, 2012, 9:57 AM), <http://www.abc.net.au/news/2012-11-12/local-food-production-plan/4366410?section=act>.

22. Margot Foster, *Push on for Local Food Act*, ABC RURAL (Mar. 24, 2014), <http://www.abc.net.au/news/2014-03-24/tch-local-food-act/5340268>.

23. *Food Miles Calculator*, FOOD MILES, <http://www.foodmiles.com/> (last visited May 15, 2014).

24. *Food Miles and Carbon Dioxide*, CLIMATE CHOICES – CHILDREN’S VOICES, <http://www.climatechoices.org.uk/pages/food3.htm> (last visited May 15, 2014).

25. BARBARA KINGSOLVER, *ANIMAL, VEGETABLE, MIRACLE: A YEAR OF FOOD LIFE* (2009). Michael Pollan addresses similar themes in some of his books. See, e.g., MICHAEL POLLAN, *IN DEFENSE OF FOOD: AN EATER’S MANIFESTO* (2008); MICHAEL POLLAN, *THE OMNIVORE’S DILEMMA: A NATURAL HISTORY OF FOUR MEALS* (2006).

26. See, e.g., *LOCAVORE WINE BAR*, <http://www.thelocavore.com.au/> (last visited Mar. 18, 2014); *LOCAVORE RESTAURANT*, <http://locavoreca.com/> (last visited May 15, 2014).

individuals who aim only to consume foods sourced from within a certain-mile radius.²⁷

To be sure, there are numerous motivations behind the locavore movement. These include the goals of eating fresher and more nutritious food, keeping local farms under cultivation, keeping money in the local community, ensuring better food safety through non-industrial production methods, the ability to see how their food is farmed, as well as reducing fossil fuel use in transporting food.²⁸

Why is this happening? A combination of factors, including the desire to protect the environment stemming from climate change concerns, but also protectionism, renewed interest in food security as a result of food shortages and rising food prices, quality and nutritional advantages from fresh foods, food safety issues, and increased trade in food, including demand for out of season perishable products.²⁹

II. ASSESSMENT OF FOOD MILES AS A PROXY FOR ENVIRONMENTAL HARM

The widespread use of marketing campaigns and other forms of advertising based on food miles may have significant negative effects for agricultural producers that export their products long distances, such as Australian and New Zealand farmers, and for producers with limited export markets, such as many developing country agricultural interests.

If higher levels of food miles were, in fact, very closely correlated with more carbon emissions, we might view it as acceptable, even necessary, for New Zealand and Australian exporters, as well as some developing country farmers, to have their products labeled with negative imagery or to be the target of negative advertising. The reality however, is quite different. Researchers have demonstrated that food miles are a very poor proxy for environmental harm.³⁰ For this reason, we find it troubling that the use of the food miles concept in regulations and marketing will have negative effects on a range of agricultural exporters.

27. See Margot Roosevelt, *Local Food Movement: The Lure of the 100-mile Diet*, TIME MAGAZINE, June 11, 2006; LOCAVORES, www.locavores.com (last visited May 15, 2014); Maryruth Belsey Priebe, *An Overview of the 100-Mile Diet*, ECOLIFE, <http://www.ecolife.com/health-food/eating-local/100-mile-diet.html> (last visited May 15, 2014); 100 MILE RADIUS, <http://www.100mile-radius.com/?spref=fb> (last visited May 15, 2014).

28. Jordan Kleiman, *Local Food and the Problem of Public Authority*, 50 TECH. & CULTURE 399, 400 (2009). Reducing obesity rates, particularly in children, is another motivation. This objective may have contributed to First Lady Michelle Obama's decision to plant a vegetable garden at the White House.

29. Wynen & Vanzetti, *supra* note 13, at 2.

30. See, e.g., DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS, THE MILES AS AN INDICATOR OF SUSTAINABLE DEVELOPMENT, 2005, ED50254 (U.K.) [hereinafter DEFRA REPORT]; CAROLINE SAUNDERS ET AL., FOOD MILES – COMPARATIVE ENERGY/EMISSIONS PERFORMANCE OF NEW ZEALAND'S AGRICULTURE INDUSTRY vii (2006) [hereinafter LINCOLN STUDY].

A. Food Miles: A Flawed Metric

The food miles narrative is easy to understand and has an intuitive appeal. It seems only logical that purchasing imported food that is transported from halfway around the world would cause more environmental harm than buying the same items locally. The reality, however, is that more food miles do not necessarily equate to higher levels of GHG emissions.

1. DEFRA Study

In 2005, a study commissioned by the U.K.'s Department for Environment, Food and Rural Affairs (DEFRA) concluded that food miles alone could not be used to develop a practical and reliable indicator of sustainability and environmental harm.³¹ The DEFRA study did not conduct life cycle analyses to compare the overall carbon footprints of imported and domestic foods. However, it examined different modes of transporting food,³² and also considered the effects of organic versus nonorganic farming.³³ The study found, *inter alia*, that farming methodologies affected overall environmental impact and sustainability.³⁴ Thus while looking at food miles alone would suggest that food should be sourced from as close by as possible, in fact in some circumstances imported organic foods would have a lesser impact than domestically grown nonorganic foods.³⁵ In addition, the study included a case study that compared emissions associated with tomatoes imported from Spain to those grown in U.K. greenhouses.³⁶ Although the U.K. producers used less fertilizer than the Spanish growers, the U.K. growers used significant amounts of energy to heat the greenhouses. The authors had not conducted a full life cycle analysis, but nonetheless concluded that there were clearly instances where it would be environmentally preferable to import fresh produce rather than growing it in out-of-season conditions in the U.K.³⁷ The study also noted that emissions from individual trips to the grocery store can be significant, and that therefore rather than focusing solely on food miles, efforts should be directed in part at reducing the incidences of food shopping by car.³⁸

2. Lincoln University Study

A 2006 study commissioned by Fonterra³⁹ and the New Zealand Ministry of Foreign Affairs and Trade and conducted by Lincoln University

31. DEFRA REPORT, *supra* note 30, at 95.

32. *Id.* at 37.

33. *Id.* at 68–73.

34. *Id.*

35. *Id.* at 73.

36. *Id.* at 67.

37. *Id.*

38. *Id.* at 79.

39. *Company Overview*, FONTERRA, <http://www.fonterra.com/global/en/About/Company+Overview> (last visited May 15, 2014).

convincingly demonstrated that food miles are in fact a poor proxy for negative environmental impact.⁴⁰ The study determined that, due to New Zealand's efficiency in producing agricultural products, it is less harmful for the environment for British consumers to purchase certain New Zealand products instead of locally grown products, notwithstanding the pollutants generated through transporting the items to the United Kingdom.⁴¹ The study concludes that looking at food miles alone will not provide an appropriate measure of environmental impact, and it argues that a better indicator would be to look at the total energy used in the production of the agricultural product. Indeed, when a lifecycle analysis is conducted,⁴² it reveals that the production process itself, rather than transportation, accounts for most of the greenhouse gasses emitted in food production.⁴³

The Lincoln University researchers conducted a "cradle-to-gate" life cycle analysis to compare the GHG emissions generated by producing U.K. lamb, dairy products, apples, and onions for the domestic market on the one hand, with GHG emissions generated by producing these same items in New Zealand and transporting them to the U.K.⁴⁴ The study concluded that, even factoring in the transport of the New Zealand products to the U.K., New Zealand was twice as energy efficient at producing dairy products; four times as efficient in producing lamb; and on the whole more efficient at producing apples and onions.⁴⁵

These conclusions may be hard to believe at first. However, the results demonstrate that there are significant differences between New Zealand and U.K. farming methods for these products. In the case of lamb, New Zealand farmers utilize far less fuel and fertilizers in the production process than do U.K. producers.⁴⁶ In the case of onions, while New Zealand onions require more energy inputs in the production process, U.K. onions that compete on the market with New Zealand market have to be cold-stored for nine months (due to the different growing seasons in the two countries), resulting in more significant GHG emissions.⁴⁷ New Zealand

40. LINCOLN STUDY, *supra* note 30.

41. LINCOLN STUDY, *supra* note 30, at 285.

42. Even a lifecycle analysis may not capture all of the sources of GHG emissions in the production process, including labor, capital, fuel and fertilizer. Wynen & Vanzetti, *supra* note 13, at 10.

43. While a lifecycle analysis will produce a far more accurate measure of a product's environmental impact than the distance it has traveled, as is discussed below, lifecycle analyses are complex and very expensive, and thus they are not a panacea.

44. The Lincoln researchers did not conduct a full (cradle-to-grave) life cycle analysis, but instead considered emissions resulting from cradle-to-gate (thus omitting disposal and waste management occurring once the products leave the farm gate). See LINCOLN STUDY, *supra* note 30, at 16. The researchers concluded that this data was not necessary as the consumers' disposal and waste management outputs would likely be similar for locally purchased and imported versions of a given product. *Id.* at 20.

45. *Id.* at 93.

46. *Id.* at 92.

47. *Id.* at 82.

apple production is less energy-intensive than U.K. production, and U.K. apples that would take the place of New Zealand apples in the marketplace would be cold-stored for up to six months.⁴⁸ For dairy production, UK producers have much higher emissions from fuel use and fertilizers than do New Zealand producers.⁴⁹ Some of these variations result from climactic and soil differences. New Zealand producers are able to use far less fertilizer than their U.K. counterparts. Similarly, due to climate differences, New Zealand producers generally do not need to house their sheep or cattle in heated structures such as barns, while U.K. producers do.⁵⁰

This data demonstrates that food miles alone do not provide an accurate picture of the GHG emissions that will result from consuming local versus imported products.

3. AgResearch Study

Other researchers recently conducted a life cycle analysis in order to determine the greenhouse gas footprint of New Zealand lamb from farm through to consumption and disposal by a U.K. consumer.⁵¹ The researchers determined that all transportation, including international shipping, accounted for only five percent of the GHG emissions attributable to the lamb.⁵² Interestingly, the study also noted that it had not included the emissions resulting from the U.K. customer driving to and from the store to purchase the lamb but indicated such emissions could add up to as much as seven percent of the overall carbon footprint for the lamb—*i.e.* more than the international shipping and all other transportation combined.⁵³ New Zealand Agriculture Minister David Carter pointed to the

48. *Id.* at 72.

49. *Id.* at 61.

50. *Id.*

51. The New Zealand Meat industry and the Ministry of Agriculture and Forestry commissioned this research, which was undertaken by AgResearch, a New Zealand Crown Research Institute. See S.F. LEDGARD ET AL., A GREENHOUSE GAS FOOTPRINT STUDY FOR EXPORTED LAMB 1 (2010), available at http://www.mia.co.nz/docs/press_releases/greenhouse_gas_footprint_study_for_exported_nz_lamb_march_2010.pdf. The GHG footprint for lamb comes primarily from methane and nitrous oxide rather than carbon; however, the study converted these emissions into carbon dioxide equivalents for purposes of the study.

52. *Id.* at 6. The largest contributor to the footprint was the methane released by the animals in the natural course of digesting pasture grasses, which accounted for 57 percent of the overall GHG footprint. *Id.* at 1.

53. This omission was consistent with the Publicly Available Standard (PAS) 2050 used to footprint GHG emissions. *Id.* at 11. This is “the most detailed and comprehensive standard to date.” Shane Baddeley et al., *Trade Policy Implications of Carbon Labels on Food*, 13 ESTEY CENTRE J. INT’L L. & TRADE POL’Y 59, 69 (2012). Although it is impractical to attempt to standardize the distances customers travel to purchase their food and their means of travel, the reality is that a consumer driving by car to the local farmers’ market likely causes more emissions per food item than airfreighting large quantities of the same item from a developing country. *Id.* at 69. The methodologies used were consistent with the GHG accounting methodology New Zealand submitted to the United Nations Framework Convention on Climate Change. See LEDGARD ET AL., *supra* note 51, at 1.

study as further evidence that the food miles argument had been debunked.⁵⁴

Studies such as those described above have led many to the conclusion that “food miles are nothing but a misleading distraction.”⁵⁵

4. Transport—Not All Miles Are the Same

The relevance of food miles is further diminished when we take into account the vastly different GHG emissions resulting from different forms of transport.⁵⁶ Thus while air freighting results in a high level of emissions relative to other forms of transportation, shipping by water transport results in far lower emissions, lower even than rail or truck.⁵⁷ A U.S. study determined that grapes shipped by boat from Chile to Philadelphia, Pennsylvania resulted in a similar level of carbon dioxide emissions per pound as truck transport of grapes from California to Philadelphia. Even though the “food miles” were much higher for the Chilean grapes, this did not translate into higher GHG emissions because water transport is significantly more energy efficient.⁵⁸

And when the transport of food is examined, it reveals that the bulk of emissions come from the road transport of food within a country, rather than cross-border shipments.⁵⁹ Indeed, one of the biggest contributors to

54. John Hartevelt, *Carter Hails ‘Debunking’ of Food Miles Argument*, STUFF.CO.NZ (Apr. 7, 2010, 5:00 AM), <http://www.stuff.co.nz/business/farming/3551987/Carter-hails-debunking-of-food-miles-argument>.

55. Pierre Desrochers & Hiroko Shimizu, *Eating Local Hurts the Planet*, SALON (June 16, 2012, 3:00 PM), http://www.salon.com/2012/06/16/eating_local_hurts_the_planet/. One authority has even gone so far as to say the “concept of food miles is unhelpful and stupid. It doesn’t inform about anything except the distance traveled.” *Id.* (quoting Dr. Adrian Williams). See also Gareth Edwards-Jones et al., *Testing the Assertion that ‘Local Food is Best’: the Challenges of an Evidence-Based Approach*, 19 TRENDS IN FOOD SCI. & TECH. 265 (2008) (“We conclude that food miles are a poor indicator of the environmental and ethical impacts of food production. Only through combining spatially explicit life cycle assessment with analysis of social issues can the benefits of local food be assessed.”).

56. This distinction is sometimes overlooked, leading to the inaccurate conclusion that the number of miles food has travelled correlates very closely with the amount of resulting GHG emissions. For example, one author recently asserted that “[f]ood miles are a good indicator of the energy used to transport the food” without differentiating amongst modes of transportation. Arielle Lessing, *A Supplemental Labeling Regime for Organic Products: How the Food, Drug and Cosmetic Act Hampers a Market Solution to an Organic Transparency Problem*, 18 MO. ENVTL. L. & POL’Y REV. 415, 447 n.176 (2011).

57. See Rich Pirog et al., *Food, Fuel, and Freeways: An Iowa Perspective on How Far Food Travels, Fuel Usage, and Greenhouse Gas Emissions*, LEOPOLD CENTER FOR SUSTAINABLE AGRIC. 15 (June, 2001), <http://www.leopold.iastate.edu/pubs/staff/ppp/foodmiles.htm>.

58. See Rich Pirog, *Food Miles: A Simple Metaphor to Contrast Local and Global Food Systems*, HUNGER & ENVTL. NUTRITION NEWSL. (Hunger & Environmental Nutrition Dietetic Practice Group, Carson City, NV), Summer 2004, at 1 (on file with authors). See also Marne Coit, *Jumping on the Next Bandwagon: An Overview of the Policy and Legal Aspects of the Local Food Movement*, 4 J. FOOD L. & POL’Y 45, 52–54 (2008).

59. *WTO Chief Hits Out at Food Miles*, EUR. ENV’T & PACKAGING LAW, 22, 23 (2009) [hereinafter *WTO Chief*].

the GHG emissions associated with a food product, on a per unit basis, is auto travel by the consumer driving to the shop or market and back.⁶⁰

5. Transportation Contributes a Small Percentage of Food Sector GHG

While “food miles” proponents emphasize the link between distance traveled and greenhouse gas emissions, in reality such gasses are not released solely—or even necessarily primarily—through transportation.⁶¹ In fact, it is estimated that transportation accounts for only four percent of the GHG emissions produced by the food sector.⁶² An analysis of food production in the United States showed that the vast majority of GHG emissions were due to the production of fertilizers and pesticides, and the fuel used by equipment used on the farms and in the food processing itself.⁶³

If the goal is truly to reduce the greenhouse gas emissions associated with food production, policies should consider the energy produced in the entire life cycle of the foodstuffs, rather than solely on the transportation component. Indeed, relying upon food miles as a policy driver would lead to more local production, but likely also a higher level of greenhouse gas emissions—precisely the opposite of the purported objective.

As an example, Kenyan farmers export green beans, particularly to the United Kingdom. A simplistic calculus would say that because the imported green beans travel a significant distance, the United Kingdom should grow its own green beans. However, what that analysis would fail to take into account is that Kenyans produce green beans with minimal environmental impact. Kenyan farmers use manual labor rather than mechanization and do not use commercial fertilizers.⁶⁴ Furthermore, while there are significant GHG emissions from air-freighting the beans from Africa, the emissions per bean are more significant as a result of a consumer driving six miles to purchase their portion of said beans.⁶⁵

Furthermore, there is currently uncertainty as to the degree of variation in emissions from different types of soils and from lands used for different purposes.⁶⁶ This uncertainty has led one scientist to proclaim that

60. See David Coley, Mark Howard & Michael Winter, *Local Food, Food Miles and Carbon Emissions: A Comparison of Farm Shop and Mass Distribution Approaches*, 34 *FOOD POL'Y* 150, 154 (2009) (noting that carbon emissions should be measured per unit of produce. The authors determined that if a consumer drove farther than 7.4 kilometers to purchase organic vegetables from a farm market, the transaction would result in more GHG emissions than if large-scale distribution systems, including cold storage are used, with the produce delivered to the customer via a delivery truck that will serve many other customers as well).

61. See Gareth Edwards-Jones, *Food Miles Don't Go the Distance*, BBC NEWS, <http://news.bbc.co.uk/2/hi/science/nature/4807026.stm> (last updated Mar. 16, 2006, 9:41 PM).

62. *WTO Chief*, *supra* note 59, at 23.

63. See *id.*

64. See Robin McKie, *How the Myth of Food Miles Hurts the Planet*, THE GUARDIAN (Mar. 22, 2008), <http://www.theguardian.com/environment/2008/mar/23/food.ethicalliving>.

65. See generally Desrochers & Shimizu, *supra* note 55.

66. Edwards-Jones, *supra* note 61.

“we do know enough to seriously question the scientific validity of simply using food miles as a proxy for environmental damage.”⁶⁷

B. *Implications of Using Food Miles as a Proxy
for Environmental Harm*

The fact that food miles are not necessarily a good indicator of the energy expended to produce a product may be of little solace to Australia, New Zealand and developing country exporters. The food miles message, although flawed, is easy to understand and to convey.⁶⁸ As such, it has the potential to be used as a protectionist tool by competitors to fight off imports coming from distant locales. Pascal Lamy has stated that “‘Greenery’ has become the new protectionism.”⁶⁹ Even when the purpose may not be protectionist, the effect will be to reduce imports that may in fact have a lower carbon footprint than the local item. Walmart’s program described above seems likely to fall into this category, as it appears the retailer is seeking to buy local solely based on the food miles concept rather than by taking into account other issues, such as amounts of fertilizer used, type of transport involved, and need for greenhousing and mechanized farming, that would factor into a life cycle analysis. In addition, Walmart’s efforts to promote the planting of new types of crops in the United States in the name of reducing food miles seem misguided.⁷⁰ If an area has not already been identified as particularly suitable to growing a particular crop, it stands to reason that attempting to do so will require carbon-intensive farming methods.

While activity such as Dairy Crest’s advertising appear to be privately driven and thus not actionable in the WTO,⁷¹ its food miles-based campaign may foreshadow government actions to come. As developed countries increasingly turn their attention to the problem of global climate change, governments will increasingly seek to impose measures that reward behaviors and purchasing practices that are perceived as lowering carbon emissions in particular or merely as environmentally friendly in general. It is also not hard to imagine that such measures could include “buy local” campaigns not just with respect to food, but also for any other product a country both produces domestically and imports. Today we hear about food miles, but tomorrow perhaps there will be carbon taxes imposed upon imports coming from distant destinations. Furthermore, country of origin labeling requirements can be combined with “buy local” or food miles campaigns to steer consumers away from imports. Government representatives from several European countries have called for country

67. *Id.*

68. *See, e.g.,* Ballingall & Winchester, *supra* note 6, at 1201.

69. *WTO Chief, supra* note 59. *See generally* Kaplin, *supra* note 16.

70. *See Walmart Produce: Our Commitment to You, supra* note 9.

71. *See* Panel Report, *Japan—Measures Affecting Consumer Photographic Film and Paper*, ¶¶ 10.43–10.56, WT/DS44/R (Mar. 31, 1998) [hereinafter *Japan—Film Panel Report*]. *See also* discussion *infra* Part III(A).

of origin labeling on foods so that consumers could take environmental effects into account in making their purchasing decisions.⁷² A government adopting such measures may violate its World Trade Organization commitments. Measures relating to food miles labeling would potentially breach a number of different WTO provisions. In Part IV we analyze the potential grounds for a WTO complaint based on a food miles-related measure.

III. COULD A SUCCESSFUL WTO CHALLENGE BE MOUNTED AGAINST FOOD MILES?

If a food miles labeling scheme operated within the jurisdiction of a WTO member and was perceived to impinge upon the WTO rights of another WTO member, or group of members, the aggrieved WTO members would have the option of challenging the scheme pursuant to the WTO's Dispute Settlement Understanding (DSU).

The DSU sets out a structured procedure for the resolution of disputes between WTO members. The procedure usually begins with consultations between the members, which are required to be undertaken in good faith upon the request of another WTO member.⁷³ In the event that consultations do not resolve the dispute within sixty days of their being commenced, a WTO panel may be established to determine the dispute at the request of the aggrieved member.⁷⁴ The panel reports its findings to the WTO's Dispute Settlement Body,⁷⁵ which then usually adopts the panel's report and requires compliance with its recommendations.⁷⁶ Panel reports can also be appealed to the WTO's Appellate Body, which has the power to review issues of law and the legal interpretations made by the panel.⁷⁷

To mount a challenge to a food miles scheme under the DSU, an aggrieved WTO member would first need to identify a relevant "measure" at issue and then demonstrate that the measure at issue is attributable to a WTO member government. It would then need to demonstrate that the food miles labeling scheme violates a relevant WTO obligation. There are a number of different WTO obligations that may be relevant to such a scheme. These are discussed in detail below.

72. LINCOLN STUDY, *supra* note 30, at 6.

73. Understanding on Rules and Procedures Governing the Settlement of Disputes art. 4, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, 1869 U.N.T.S. 401 [hereinafter DSU].

74. *Id.* art. 6.

75. *Id.* art. 12.7.

76. *Id.* arts. 2.1, 16, 21.

77. *Id.* art. 17.6.

A. Preliminary Requirements

1. What Is a “Measure”?

In order to challenge a food miles scheme, a WTO member would need to identify the precise “measure” that is at issue.⁷⁸ This has important implications for the scope of a panel’s jurisdiction when adjudicating the complaint.⁷⁹

Article 3.3 of the DSU limits the use of dispute settlement procedures to “situations in which a Member considers that any benefits accruing to it directly or indirectly under the covered agreements are being impaired by *measures* taken by another Member.”⁸⁰ Similarly, Article 6.2 of the DSU requires that a request for the establishment of a panel “identify the *specific measures at issue*.”⁸¹

Although the DSU repeatedly uses the term “measure,” it does not define what will (or will not) constitute a measure. Interpreting Article 3.3, the Appellate Body has held that “[i]n principle, any act or omission attributable to a WTO Member can be a measure of that Member for purposes of dispute settlement proceedings.”⁸² Therefore, there are two requirements for a “measure”: there must be an act or omission, and that act or omission must be attributable to the relevant WTO member. Both of these requirements will be considered in turn.

Act or omissions may include legislation, administrative decisions and other legal instruments. Rules or norms of “general and prospective application” may be challenged “as such” in the WTO, irrespective of whether or how they have been applied in specific factual circumstances (i.e., a facial challenge).⁸³ In relation to “as such” challenges to legal instruments, some GATT and WTO cases have drawn a distinction between so-called mandatory and discretionary measures.⁸⁴ The premise behind this distinction is that only measures that mandate conduct that would be inconsistent with WTO obligations may be challenged as such; if a measure can be implemented in a way that is consistent with the WTO agreements, then it

78. Note that nothing in the DSU enables private parties such as affected businesses to bring disputes before a WTO panel. Rather, the dispute resolution mechanisms under the DSU are only available to WTO members themselves—that is states and separate customs territories possessing full autonomy in the conduct of their external commercial relations.

79. Tania Voon & Alan Yanovich, *What is the Measure at Issue?*, in CHALLENGES AND PROSPECTS FOR THE WTO 115, 117 (Andrew D. Mitchell ed., 2005).

80. DSU, *supra* note 73, art. 3.3.

81. *Id.* art. 6.2.

82. Appellate Body Report, *United States–Sunset Review of Anti-Dumping Duties on Corrosion-Resistant Carbon Steel Flat Products from Japan*, ¶ 81, WT/DS/244/AB/R (Dec. 15, 2003) [hereinafter *U.S.–Corrosion-Resistant Steel Appellate Body Report*].

83. *Id.*, ¶ 82.

84. See, e.g., Appellate Body Report, *United States–1916 Act*, ¶¶ 88–91, WT/DS136/AB/R, WT/DS162/AB/R (Aug. 28, 2000) (citing Panel Report, *United States–Measures Affecting the Production and Sale of Clove Cigarettes*, WT/DS44/R, (Sept. 2, 2011)); Panel Report, *Canada–Measures Affecting the Export of Civilian Aircraft*, ¶ 9.124, WT/DS70/R (Apr. 14, 1999).

is not able to be challenged as such, although it could be challenged as applied. However, more recent jurisprudence suggests that the correct question is not whether a measure is mandatory or discretionary, but rather “whether, on the correct interpretation of the specific WTO obligation at issue, only mandatory or also discretionary national laws are prohibited.”⁸⁵ In other words, some discretionary measures can be subject to “as such” challenges where it is determined that the WTO commitment at issue can be violated by such a discretionary measure.

2. What Will be Attributable to a WTO Member?

The second aspect of identifying a measure that can be subject to WTO dispute settlement procedures is that the relevant act or omission must be attributable to a WTO member. The WTO only reaches actions of a governmental nature; thus if a measure emanates from a private source or cannot be attributed to the government, it will not be actionable under WTO dispute settlement. While it is clear that acts of the executive, legislative or judicial branches of government may be attributable to a WTO member, issues have arisen when considering whether acts or omissions involving regional or local governments, or private parties, may be attributable to that member.

It is generally well established that the acts of regional or local governments can be attributed to a WTO member. For example, the United States’ measures at issue in the *U.S.–Gambling* dispute included both federal and state laws.⁸⁶ The DSU expressly provides that “the dispute settlement provisions of the covered agreements may be invoked in respect of measures affecting their observance taken by regional or local governments or authorities within the territory of a Member.”⁸⁷ Likewise, under the GATT, all WTO members are obliged to “take such reasonable measures as may be available to it to ensure observance of the provisions of this Agreement by the regional and local governments and authorities within its territories.”⁸⁸ In addition, the Technical Barriers to Trade (TBT) Agreement provides specific rules relating to the preparation, adoption

85. Panel Report, *United States–Sections 301-310 of the Trade Act 1974*, ¶¶ 7.51, 7.53, WT/DS152/R, (Dec. 22, 1999). See also *U.S.–Corrosion-Resistant Steel Appellate Body Report*, *supra* note 82, ¶¶ 87–99.

86. While the Appellate Body clearly accepted that state laws could be the basis of a complaint under the DSU, it held that in relation to some of the state laws at issue Antigua had not established a *prima facie* case of inconsistency with the relevant provisions of the GATS. See Appellate Body Report, *United States–Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, ¶¶ 149–155, WT/DS285/AB/R (Apr. 7, 2005) [hereinafter *U.S.–Gambling Appellate Body Report*].

87. DSU, *supra* note 73, art. 22.9.

88. General Agreement on Tariffs and Trade 1994 art. XXIV:12, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 187; 33 I.L.M. 1153 [hereinafter GATT]. See e.g. Panel Report, *European Communities–Measures Affecting the Approval and Marketing of Biotech Products*, WT/DS291/R (Sept. 29, 2006); Request for Consultation by the European Communities, *United States–Measure Affecting Government Procurement*, WT/DS88/1 (June 26, 1997).

and application of measures by local government and non-government bodies.⁸⁹

The jurisprudence is less straightforward in relation to whether the acts of private parties can be attributed to a WTO member. Whether a private action may be attributable to a WTO member depends upon “difficult judgments as to the extent to which what appear on their face to be private actions may nonetheless be attributable to a government because of some governmental connection to or endorsement of those actions.”⁹⁰ Because it is “difficult to establish bright-line rules in this regard,” whether or not a measure can be attributed to that WTO member must “be examined on a case-by-case basis.”⁹¹ The relevant criteria is whether “there is sufficient government involvement” for a measure to be attributable to a WTO member.⁹² A number of cases have considered whether the measures at issue were attributable to the WTO member.

The panel in the *Japan–Film* dispute concluded that “administrative guidance,” as it is known in Japan, was attributable to the government.⁹³ Some of the specific instruments at issue in the dispute were produced by private parties, such as an industry code of conduct and articles of association for an industry body. For a number of these measures, the panel found that approval by the relevant authority of the Japanese government was an indication that there was a sufficient connection for the measures to be attributable to the government.⁹⁴ Yet approval by the government is not a necessary condition for a measure to be attributable to that WTO member. Some “self-regulating measures” were attributed to the Japanese government “[r]egardless of whether [they] were in fact formally approved,” because of the likelihood that private parties would conform with the measures and consider them to be “administrative guidance.”⁹⁵

In *Canada–Autos*, the panel considered whether the actions of private parties could be subject to Article III:4 of the GATT. It noted that:

A determination of whether private action amounts to a ‘requirement’ under Article III:4 must therefore necessarily rest on a finding that there is a nexus between that action and the action of a government such that the government must be held responsible for that action. We do not believe that such a nexus can exist only if a government makes undertakings of private parties legally enforceable . . . it is necessary to take into account that there is a

89. Agreement on Technical Barriers to Trade arts. 3, 4, 7, 1868 U.N.T.S. 120 (entered into force Jan. 1, 1995) [hereinafter TBT Agreement] available at http://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm.

90. *Japan–Film* Panel Report, *supra* note 71, ¶ 10.52.

91. *Id.* ¶ 10.56.

92. *Id.*

93. *Id.* ¶¶ 10.43–46.

94. *Id.* ¶ 10.328.

95. *Id.* ¶ 10.299.

broad variety of forms of government action that can be effective in influencing the conduct of private parties.⁹⁶

The measures at issue in this case were undertakings by car manufacturers operating in Canada, which, if complied with, entitled them to an exemption from the usually applicable customs duties on imports of motor vehicles. The panel held that these undertakings constituted “requirements” for the purposes of Article III:4 of the GATT, because:

[w]here a government requests a firm to make commitments as specific as those contained in the Letters of Undertaking and to record them in writing in letters addressed to the government, and these commitments are described by the firms as “obligations” in respect of the fulfillment of which they undertake to provide information to, and to consult with, the government, it is evident that there is action of private parties directed by, or at the very least expected by, the government.⁹⁷

In *Canada–Dairy*, the panel held that marketing boards, which were corporations made up of dairy producers, were governmental agencies, to the extent that they acted under “explicit delegated governmental authority.”⁹⁸ The Appellate Body upheld this finding, stating that “[i]rrespective of the composition of the boards, the source of their powers is still ‘governments’ and the nature of the functions that they exercise is still ‘governmental’.”⁹⁹

On the basis of these decisions it can be seen that dispute settlement panels and the Appellate Body are willing to find that the acts of private bodies can be attributed to the relevant WTO member government. However, one case in which such a claim was not successful was *Argentina–Hides and Leather*.¹⁰⁰ The European Communities challenged the fact that Argentina allowed representatives from its domestic leather tanning industry to be present at the customs clearance of exports of raw bovine hides.¹⁰¹ While there was a legally binding resolution authorizing the industry members to be present at customs, the panel rejected the notion that Article XI:1 of the GATT required WTO members “to exclude any possibility that governmental measures may enable private parties, directly or indirectly, to restrict trade, where those measures themselves are

96. Panel Report, *Canada–Certain Measures Affecting the Automotive Industry*, ¶ 10.107, WT/DS139/R (Feb. 11, 2000) [hereinafter *Canada–Autos Panel Report*].

97. *Id.* ¶ 10.123.

98. Panel Report, *Canada–Certain Measures Affecting Dairy Exports*, ¶ 7.78, WT/DS103/R (May 17, 1999).

99. Appellate Body Report, *Canada–Certain Measures Affecting Dairy Exports*, ¶ 101, WT/DS103/AB/R (Oct. 13, 1999).

100. Panel Report, *Argentina–Measures Affecting the Export of Bovine Hides and the Import of Finished Leather*, WT/DS155/R (Dec. 19, 2000).

101. *Id.* ¶ 3.1.

not trade-restrictive.”¹⁰² The panel went on to conclude that there was insufficient evidence to establish that the presence of the industry representatives were effectively an export restriction.¹⁰³

These cases demonstrate that private acts may be attributable to the government of a WTO member if sufficient government involvement can be proven. This government involvement may constitute approval of the act, delegation of authority to the private body or acts being carried out in accordance with a commitment made to the government.

3. Application to Food Miles

A food miles scheme could be challenged on the basis of its application in a specific case, such as harm to a particular imported product that can be linked to food miles, or the scheme as a whole could be challenged on the basis that it violates relevant provisions of WTO law. If a challenge is made to a food miles scheme “as such,” then the complaining member will have to establish whether the relevant provisions of the WTO Agreements prohibit both mandatory and discretionary measures. This is discussed below in relation to relevant provisions of the TBT Agreement and the GATT.

The key issue for whether a food miles scheme is a “measure” under the DSU will be whether there is sufficient government involvement in the scheme to make it attributable to that WTO member. Most food miles schemes, which have been implemented to date, have originated from private bodies, without authorization or official support from governments.¹⁰⁴ For example, the Sydney Fair Food Alliance, which promotes the purchase of locally produced food with a low miles tally, is an independent community group.¹⁰⁵ Private companies such as Tesco and Marks & Spencer have developed labeling schemes for their own products, which have been implemented in the United Kingdom, for example by marking food that has been air freighted with an airplane symbol.¹⁰⁶ Based on the jurisprudence, it is difficult to see how these sorts of programs could be attributed to WTO members.

Nonetheless, there are some private carbon labeling schemes, which are receiving government support. In France, certain supermarket labeling schemes have been endorsed by the French Environment and Energy Agency.¹⁰⁷ However, no audits of the scheme are required so it is arguable whether the government endorsement of the scheme has a meaningful impact on its implementation. The more direct the linkages between the gov-

102. *Id.* ¶ 11.19.

103. *Id.* ¶ 11.35.

104. See ABARE Report, *supra* note 8, at 18.

105. See *Annual Report 2010-2011*, SYDNEY FOOD FAIRNESS ALLIANCE (Feb. 14, 2012), sydneyfoodfairness.org.au/blog/2012/02/14/annual-report-2010-2011/.

106. Caroline Saunders, *Carbon Footprints, Life Cycle Analysis, Food Miles—Global Trade Trends and Market Issues*, 60 POL. SCI. 73 (2008).

107. ABARE Report, *supra* note 8, at 22.

ernment and a food miles scheme, the more these may be measures that could be subject to challenge pursuant to the WTO dispute settlement mechanism.

B. Possible Bases for a Challenge to Food Miles

There are a range of WTO obligations that may be relevant to campaigns or policies based on the concept of food miles. The particular WTO obligations that may be at issue would depend upon the characteristics of the relevant food miles policy. For example, if an eco-label which reports the food miles for that produce or product constituted a “measure” attributable to a WTO member, it could raise issues under the GATT and the TBT Agreement. A differential tariff or carbon tax levied in proportion to the food miles of a product may be inconsistent with GATT obligations. It is also possible that food miles schemes could be viewed as a subsidy for local produce, implicating the provisions of the Subsidies and Countervailing Measures (SCM) Agreement.

The WTO obligations that apply to a food miles program may also depend on whether or not participation in the program is voluntary or mandatory. Mandatory schemes may be subject to GATT provisions, while voluntary schemes most likely will not be subject to those obligations.¹⁰⁸

A food miles labeling scheme could implicate multiple WTO agreements, including the GATT, the TBT Agreement, and the SCM Agreement. There is a degree of overlap between the TBT Agreement and the GATT, in that TBT measures are also GATT measures (although not all GATT measures are TBT measures). As such, there are certain measures to which both the GATT and the TBT Agreement apply. Because the TBT Agreement sets out detailed rules to govern technical barriers to trade, WTO dispute settlement panels and the Appellate Body begin their analysis of such a measure with the TBT Agreement, and subsequently assess the measure under the GATT.¹⁰⁹ Accordingly, we first assess the possibility of challenging a food miles labeling scheme under the TBT Agreement before turning to the GATT and other possible bases for challenge.

108. CENTER FOR INT’L ENVTL. L., *ECO-LABELING STANDARDS, GREEN PROCUREMENT AND THE WTO: SIGNIFICANCE FOR WORLD BANK BORROWERS 5* (2005) available at www.ciel.org/Publications/Ecolabeling_WTO_Mar05.pdf (noting that the GATT may apply to mandatory eco-labeling schemes). The TBT Agreement, however, covers both mandatory and voluntary measures.

109. See, e.g., Panel Report, *European Communities—Measures Affecting Asbestos and Products Containing Asbestos*, ¶ 8.16, WT/DS135/R (Sept. 18, 2000). In addition, in the unlikely event of a conflict between the GATT and the TBT Agreement, the TBT Agreement interpretation would prevail. See *General Interpretative Note to Annex 1A of the WTO Agreement*, WTO, http://www.wto.org/english/res_e/booksp_e/analytic_index_e/wto_agree_04_e.htm#general (last visited May 15, 2014).

1. TBT Agreement

Until recently, very few matters brought before the WTO dispute settlement system had implicated the TBT Agreement. As a result, there was little jurisprudence on the interpretation of this Agreement. Prior to 2012, only two TBT disputes, the 2001 *EC–Asbestos*¹¹⁰ case and the 2002 *EC–Sardines*¹¹¹ case, had been appealed to the Appellate Body. A third, the 2005 *EC–Trademarks and Geographical Indications (Australia)* dispute, was resolved at the panel level.¹¹²

In the past few years, however, WTO members brought three different disputes implicating the TBT Agreement, including important provisions of the agreement that had not been interpreted in the previous disputes. All three were adjudicated at both the panel and Appellate Body levels, with the Appellate Body issuing its reports in each of these disputes in 2012. Through these decisions, *U.S.–Clove Cigarettes*;¹¹³ *U.S.–Tuna II (Mexico)*;¹¹⁴ and *U.S.–Country of Origin Labelling (“U.S.–COOL”)*,¹¹⁵ the Appellate Body has developed a consistent approach to TBT cases that will inform future jurisprudence. These three decisions collectively provide us with useful indicia for how a panel or the Appellate Body would be likely to approach a challenge of a measure based on food miles.¹¹⁶

110. Appellate Body Report, *European Communities–Measures Affecting Asbestos and Products Containing Asbestos*, WT/DS135/AB/R (Mar. 12, 2001) [hereinafter *EC–Asbestos* Appellate Body Report].

111. Appellate Body Report, *European Communities–Trade Description of Sardines*, WT/DS231/AB/R (Sep. 26, 2002) [hereinafter *EC–Sardines* Appellate Body Report].

112. Panel Report, *European Communities–Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs*, WT/DS290/R (Mar. 15, 2005) [hereinafter *EC–Trademarks and Geographical Indications* Panel Report].

113. Appellate Body Report, *United States–Measures Affecting the Production and Sale of Clove Cigarettes*, WT/DS406/AB/R (Apr. 4, 2012) [hereinafter *U.S.–Clove Cigarettes* Appellate Body Report].

114. Appellate Body Report, *United States–Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products*, WT/DS381/AB/R (May 16, 2012) [hereinafter *U.S.–Tuna II (Mexico)* Appellate Body Report].

115. Appellate Body Report, *United States–Certain Country of Origin Labeling (COOL) Requirements*, WT/DS384/AB/R, WT/DS386/AB/R (Jun. 29, 2012) [hereinafter *U.S.–COOL* Appellate Body Report].

116. Two of these disputes (*U.S.–COOL* and *U.S.–Tuna II (Mexico)*) implicated product labeling. The COOL regulation was intended to provide consumers with information about the origin of meat sold in the United States. While the purpose of this regulation was purportedly to spur foreign meat exporters to improve the safety of their products (on the theory that if customers know where their meat comes from, they will make purchasing decisions based on perceived safety), these labels would also signal to customers whether meat was domestic or had, perhaps, traveled a significant distance. Thus, while the COOL case did not implicate food miles explicitly, the labels used would have the potential to lead consumers to make decisions on a “distance travelled” basis. See Jason J. Czarnezki, *The Future of Food Eco-Labeling: Organic, Carbon Footprint, and Environmental Life-Cycle Analysis*, 30 *STANFORD ENVTL. L.J.* 3, 22 (2011).

a. Scope of the TBT Agreement

Labeling requirements based on food miles could potentially fall within the coverage of the TBT Agreement. The Agreement applies to 1) technical regulations; 2) standards; and 3) conformity assessment procedures.¹¹⁷ For purposes of this discussion, we focus on the “technical regulations” and “standards” categories.¹¹⁸

As is explained in more detail below, *technical regulations* are mandatory. Examples would include a requirement that any food that contains GMOs bear a label so indicating, or a regulation mandating that all electric appliances display a measure, based on a standardized system, of their energy efficiency. *Standards* are voluntary, meaning that use of, e.g., a label, is not required. However, if a label is used, it must conform to particular criteria. For example, countries generally do not require that organic foods be labelled as such; however, they may wish to attach conditions to the use of labels indicating a product is organic. A regulation setting forth the criteria pursuant to which the term “organic” can be applied would, in this instance, be a standard for purposes of the TBT Agreement, rather than a technical regulation. Producers and retailers would not be obliged to label any products organic, but if they did wish to use the term “organic” on their products, they would need to comply with the country’s regulation.

Technical regulations are defined in Annex 1.1 of the TBT Agreement, which provides that a technical regulation is a:

[d]ocument which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.¹¹⁹

The Appellate Body has interpreted Annex 1.1 as requiring three cumulative findings in order for a measure to be a technical regulation: a) it must apply to an identifiable product or group of products; b) it must identify one or more characteristics of the product; and c) compliance with the product characteristic(s) must be mandatory.¹²⁰

With respect to food miles labeling, the first requirement would likely be met. Any measure relating to food miles labeling would presumably

117. See TBT Agreement, *supra* note 89, arts. 2–5.

118. *Id.*, Annex 1.3 (“Any procedure used, directly or indirectly, to determine that relevant requirements in technical regulations or standards are fulfilled.”). It is possible a food miles labeling program could implicate this provision—for example, if the measure prescribed methods for calculating the food miles listed on the label. Nonetheless, we limit our focus here to technical regulations and standards themselves.

119. *Id.*, Annex 1.1.

120. EC–Sardines *Appellate Body Report*, *supra* note 111, ¶ 176. See also EC–Asbestos *Appellate Body Report*, *supra* note 110, ¶¶ 66–70; U.S.–Tuna II (Mexico) *Appellate Body Report*, *supra* note 114, ¶ 183.

identify the categories of food—*e.g.* “all perishable foods”; “all fresh fruits and vegetables”; “all air-freighted produce”—to which the labels would apply. Thus the applicable products would be foods or some subset thereof.

In *EC-Asbestos*, the Appellate Body established that product characteristics can be intrinsic or extrinsic to the product and can be positive or negative in nature.¹²¹ The Appellate Body noted the language of Annex 1.1, which provides that product characteristics “may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.”¹²²

Annex 1.1 therefore suggests that a labeling requirement may itself be a product characteristic. This was the interpretation reached in the *EC-Geographical Indications* case, where the panel found that “a document that lays down a requirement that a product label must contain a particular detail, in fact, lays down a product characteristic.”¹²³

What is not entirely clear is whether the “particular detail” that is required to appear on a label can be unrelated to the product itself. It seems straightforward that a regulation providing that labels must identify characteristics linked to the product itself, such as calorie count, nutritional content, or allergenic properties, would satisfy this requirement. But what if the mandate is that a label state that food has been air-freighted, or that an airplane sticker be placed on air-freighted food? Will this constitute a product characteristic?

In other words, Annex 1.1 clearly includes “related” processes or production methods (PPMs), but does it include non-product-related process and production methods (npr-PPMs) as well? The distance food has travelled, or the method by which it was transported, cannot be detected by analyzing the food itself and is therefore an unincorporated or non-product-related PPM.

The first sentence of Annex 1.1 refers to documents setting out “product characteristics or their *related* processes and production methods” (emphasis added), but in the second sentence, which discusses labeling, the text uses different language, omitting the word “related”: “It may include. . . labelling requirements as they apply to a product, process or production method.”¹²⁴

121. *EC-Asbestos* Appellate Body Report, *supra* note 110, ¶ 67.

122. TBT Agreement, *supra* note 89, Annex 1.1.

123. *EC-Trademarks and Geographical Indications* Panel Report, *supra* note 112, ¶ 4.751.

124. TBT Agreement, *supra* note 89, Annex 1.2. Dealing with “standards,” utilizes the same pattern. A “standard” is a:

[d]ocument approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method.

The omission of the word “related” in the second sentence can be read to indicate that the TBT Agreement *does* cover npr-PPMs, at least with respect to labeling.¹²⁵ Although not all commentators share this view,¹²⁶ we find it telling that the United States, as respondent in the *U.S.–COOL* and *U.S.–Tuna II (Mexico)* disputes, did not raise the argument that its labeling requirements – in both cases relating to npr-PPMs—fell outside the scope of the TBT Agreement.¹²⁷

The third requirement is that the regulation must prohibit or require certain product characteristics.¹²⁸ Although each measure must be examined in the light of its unique circumstances,¹²⁹ a regulation that required labels to note the distance the product had travelled from origin to market, or to depict an airplane, would seem to fall squarely within this category.¹³⁰

As noted above, “standards” is the term the TBT Agreement uses for TBT measures that are voluntary. Voluntary measures are less burdensome on exporters than mandatory ones, and it is therefore understandable that the TBT Agreement imposes less stringent requirements on the use of standards than it does on the use of technical regulations. For standards, WTO members are to ensure their standardizing bodies accept and comply with the Code of Good Practice for the Preparation, Adoption and

125. See Tania Voon, Andrew Mitchell & Catherine Gascoigne, *Consumer Information, Consumer Preferences and Product Labels Under the TBT Agreement*, in RESEARCH HANDBOOK ON THE WTO AND TECHNICAL BARRIERS TO TRADE 454 (Tracey Epps & Michael J. Trebilcock eds., 2013).

126. See Vicki Waye, *Carbon Footprints, Food Miles and the Australian Wine Industry*, 9 MELB. J. INT'L L. 271, 298 (2008); Arthur E. Appleton, *Private Climate Change Standards and Labeling Schemes under the WTO Agreement on Technical Barriers to Trade*, in INTERNATIONAL TRADE REGULATION AND THE MITIGATION OF CLIMATE CHANGE 150 (Thomas Cottier, Olga Nartova & Sadeq Z. Bigdeli eds., 2009) [hereinafter Appleton—Private Standards] (“the TBT probably does not apply to standards governing NPR-PPMs.”). See also Committee on Trade and the Environment, *Note by the Secretariat: Negotiating History of the Coverage of the Agreement on Technical Barriers to Trade with regard to Labelling Requirements, Voluntary Standards, and Processes and Production Methods Unrelated to Product Characteristics*, WT/CTE/W/10, G/TBT/W/11 (August 29, 1995); Arthur Appleton, *Supermarket Labels and the TBT Agreement: “Mind the Gap”*, BUS. LAW BRIEF, Fall 2007, at 11-12; Manoj Joshi, *Are Eco-labels Consistent with World Trade Agreements?*, 38 J. WORLD TRADE 69, 74-78 (2004).

127. See PETER VAN DEN BOSSCHE & WERNER ZDOUC, *THE LAW AND POLICY OF THE WORLD TRADE ORGANIZATION* 855 (2012).

128. *EC–Asbestos* Appellate Body Report, *supra* note 112, ¶¶ 66–70.

129. *U.S.–Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶ 188.

130. There was no dispute over whether the primary measures at issue were technical regulations in *U.S.–Clove Cigarettes* or *U.S.–COOL*. In *U.S.–COOL*, there was an issue at the panel stage as to whether a letter written by the U.S. Secretary of Agriculture, Tom Vilsack, was a technical regulation. The panel found that the letter did not meet the definition of a technical regulation because compliance with the suggestions made in the letter was not mandatory. This finding was not appealed. Panel Report, *United States–Certain Country of Origin Labeling (COOL) Requirements*, ¶ 7.194, WT/DS384/R (Nov. 18, 2011) [hereinafter *U.S.–COOL* Panel Report].

Application of Standards set forth in Annex 3 of the Agreement.¹³¹ In addition, “Members shall not take measures which have the effect of, directly or indirectly, requiring or encouraging such standardizing bodies to act in a manner inconsistent with the Code of Good Practice.”¹³² So long as a member’s standardizing bodies accept and comply with the Code of Good Practice, their standards will be deemed consistent with the TBT Agreement.¹³³

Because the TBT Agreement requirements for standards are easier to satisfy than those for technical regulations, members likely will try to argue measures are voluntary (and thus standards) rather than mandatory (and thus technical regulations) if they have the opportunity to do so. The Appellate Body faced such a situation in the recent *U.S.–Tuna II (Mexico)* case.¹³⁴

iii. Labeling Requirements can be Technical Measures or Standards, Depending on the Facts

At issue in the *U.S.–Tuna II (Mexico)* dispute was the U.S. labeling scheme pursuant to the Dolphin Protection Consumer Information Act (DPCIA) and related regulations. Under DPCIA, a dolphin-safe label could be used on tuna and tuna products only if the tuna had been caught without using certain fishing techniques believed to result in dolphin mortalities, including high seas driftnet fishing.¹³⁵ In addition, different criteria were required to qualify for the dolphin-safe label for tuna caught within and outside the Eastern Tropical Pacific region.¹³⁶

The panel found that the U.S. requirements were mandatory, and therefore constituted a technical regulation under TBT Annex 1.1. In support of this conclusion, the panel noted that the “dolphin-safe” labeling provisions are subject to enforcement measures, and dictate the circumstances under which certain terms can be used on tuna product labels.¹³⁷ The panel concluded that compliance with the labeling requirements is mandatory,¹³⁸ and for these reasons the requirements constituted a technical regulation. The United States appealed this finding, arguing that the panel had improperly equated “requirement” with “mandatory.” It submitted that the mere fact the labeling requirements were enforceable did not mean they were mandatory, as enforceability, on its own, does not

131. TBT Agreement, *supra* note 89, art. 4.1.

132. *Id.*

133. *Id.*

134. *U.S.–Tuna II (Mexico)* Appellate Body Report, *supra* note 114.

135. Panel Report, *United States–Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products*, ¶¶ 2.3–2.8, WT/DS381/R (Sept. 15, 2011) [hereinafter *U.S.–Tuna II (Mexico)* Panel Report]

136. *Id.* ¶¶ 2.9–2.16.

137. *Id.* ¶¶ 7.127, 7.132. See also *U.S.–Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶¶ 179–180.

138. *U.S.–Tuna II (Mexico)* Panel Report, *supra* note 135, ¶ 7.145.

differentiate standards from technical regulations.¹³⁹ The United States argued the labeling scheme was not mandatory, as producers were not prohibited from selling their tuna on the market if they did not meet the requirements for using the dolphin-safe label. Instead, they could still sell their tuna; however, they would not be allowed to call the tuna “dolphin-safe.”¹⁴⁰ Mexico argued that the labeling requirements should be seen as mandatory because the only way to be able to convey tuna products were “dolphin-safe” in the U.S. market was to comply with the conditions associated with using the “dolphin-safe” label, and then to use that label. No alternative labels were permitted, nor could one fail to comply with the conditions imposed for using the label and still use the label.¹⁴¹

The Appellate Body noted that labeling requirements may be technical regulations or standards, and stated that “[t]he fact that ‘labelling requirements’ may consist of criteria or conditions that must be complied with in order to use a particular label does not imply therefore that the measure is for that reason alone a ‘technical regulation’ within the meaning of Annex 1.1.”¹⁴² Instead, the characteristics of the measure and the given circumstances of a particular situation would need to be examined to determine whether a labeling requirement is a technical regulation or a standard.¹⁴³ In this respect, it agreed with the position of the United States. However, the Appellate Body went on to uphold the finding of the panel, substantially agreeing with Mexico’s argument. It found: “the US measure establishes a single and legally mandated set of requirements for making any statement with respect to the broad subject of “dolphin-safety” of tuna products in the United States.”¹⁴⁴ The Appellate Body also pointed to the fact that the U.S. law provided for enforcement measures in the event a label claimed tuna was “dolphin-safe” or referenced marine mammals at all, if it did not comply with the measure at issue. These enforcement measures would apply even if such a label was not inaccurate or misleading.¹⁴⁵

The Appellate Body’s reasoning suggests that many regulations will fall into the category of “mandatory,” notwithstanding the fact that the affected product can be sold without complying with the measure’s provisions. Although it seems likely that most food miles labels would be voluntary standards under the TBT Agreement rather than mandatory technical regulations, the Appellate Body’s findings in *U.S.–Tuna II (Mexico)* suggest that the “voluntary” category will be interpreted more narrowly than

139. *U.S.–Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶ 181.

140. *Id.* ¶ 196.

141. *Id.* ¶ 182.

142. *Id.* ¶ 187.

143. *Id.* ¶¶ 188, 190.

144. *Id.* ¶ 193.

145. *Id.* ¶ 195.

previously understood, while the “mandatory” category will be interpreted more broadly.¹⁴⁶

Relevant Provisions – Standards

The main TBT Agreement provisions pertaining to voluntary standards are Annex 3, which comprises the aforementioned Code of Good Practice for the Preparation, Adoption and Application of Standards (“Code of Good Practice”), and Article 4. As noted above, if a food miles labeling scheme (or a regulation governing the use of life cycle analysis data) were deemed a standard, the primary determinant of WTO consistency will be whether the member’s standardizing bodies have accepted and are following the Code of Good Practice.¹⁴⁷ The Code of Good Practice requires standards-setting bodies to provide most-favored nation and national treatment with respect to standards, and to refrain from imposing unnecessary obstacles to trade.¹⁴⁸ In addition, the Code of Good Practice requires that:

[w]here international standards exist or their completion is imminent, the standardizing body shall use them, or the relevant parts of them, as a basis for the standards it develops, except where such international standards or relevant parts would be ineffective or inappropriate, for instance, because of an insufficient level of protection or fundamental climatic or geographical factors or fundamental technological problems.¹⁴⁹

As discussed above, an issue arose in *U.S.–Tuna II (Mexico)* over whether the measure was a standard or a technical regulation, with the Appellate Body determining the U.S. measure was a technical regulation. The other five TBT disputes to date have all concerned technical regulations rather than standards. While there were questions in certain of the cases as to whether the measures at issue were technical regulations, the arguments revolved around the TBT provisions governing technical regulations rather than whether the measures were instead standards.

Because the Appellate Body seems to be defining standards narrowly, and that the instances of proposed food miles labeling to date have been mandatory in nature, we focus here on the requirements a member must comply with in applying (mandatory) technical regulations rather than (voluntary) standards.

146. See Elizabeth Trujillo, *The WTO Appellate Body Knocks Down U.S. “Dolphin-Safe” Tuna Labels But Leaves a Crack for PPMs*, ASIL INSIGHTS, July 26, 2012, available at <http://www.asil.org/insights/volume/16/issue/25/wto-appellate-body-knocks-down-us-%E2%80%9Cdolphin-safe%E2%80%9D-tuna-labels-leaves>.

147. TBT Agreement, *supra* note 89, art. 4.2.

148. *Id.* Annexes 3(D) & (E). Most-favored nation and national treatment are discussed *infra* Part III(B)(1)(c)(i).

149. *Id.* Annex 3(F). The Code of Good Practice additionally has certain transparency and reporting requirements.

Relevant Provisions – Technical Regulations

The most important TBT Agreement provisions relating to technical regulations are the requirements to provide most-favored nation (MFN) and national treatment (Article 2.1); the requirement not to erect unnecessary barriers to trade (Article 2.2); and the requirement to base technical barriers to trade on international standards, where such standards exist (Article 2.4). We discuss each of these in turn.

Article 2.1 of the TBT Agreement provides:

Members shall ensure that in respect of technical regulations, products imported from the territory of any Member shall be accorded treatment no less favourable than that accorded to like products of national origin and to like products originating in any other country.¹⁵⁰

In *U.S.–COOL*, the Appellate Body identified three elements that must be established to demonstrate a violation of the national treatment obligation enshrined in TBT Art. 2.1:

(i) that the measure at issue is a ‘technical regulation’ as that term is defined in Annex 1.1 to the *TBT Agreement*; (ii) that the imported and domestic products at issue are ‘like products’; and (iii) that the measure at issue accords less favourable treatment to imported products than to like domestic products.¹⁵¹

The test for a violation of the MFN principle is similar, except that the third element asks whether the measure accords “treatment no less favourable” than like products originating in third countries, rather than originating in the domestic market.¹⁵²

A food miles labeling requirement could implicate the national treatment obligation and the MFN obligation. For example, if a WTO member imposed a labeling measure that required a listing of the distance fresh foods had traveled, such a measure could lead to concerns over disparate treatment for domestic and imported products, implicating the national treatment provision. It also could implicate the MFN principle if the member imposing the measure imported like products from a geographically distant trading partner as well as from neighboring countries. This scenario could lead to claims that certain trading partners (those geographically proximate to the member imposing the measure) are receiving more favorable treatment than others (those located further away). Accordingly, the analysis below applies to potential claims of violation of both the national treatment and MFN obligations.

150. TBT Agreement, *supra* note 89, art. 2.1.

151. *U.S.–COOL Appellate Body Report*, *supra* note 115, ¶ 267; *see also U.S.–Clove Cigarettes Appellate Body Report*, *supra* note 113, ¶ 87.

152. *U.S.–Tuna II (Mexico) Appellate Body Report*, *supra* note 114, ¶ 202.

Looking to the three-part test set forth above, we have already discussed above the issue of when a measure will be deemed a technical regulation. We therefore focus here on the remaining two issues—whether the domestic and imported products are “like,” and whether imported products receive less favorable treatment than domestic products (in the case of the national treatment obligation) or other imported products (in the case of the MFN obligation).

The concept of “like products” features throughout the WTO agreements. Differential treatment of dissimilar products is commonplace and largely uncontroversial. If a member decides to impose higher tariffs on clothing than on cars, for example, that is a matter of domestic policy with which the WTO is not concerned. However, what *is* a matter for concern is when a member provides different treatment to two products that are the same, or close to the same—*e.g.* cars from member A receiving better treatment than cars from member B.

Panels and the Appellate Body have traditionally used four criteria to assess whether products are “like”: physical properties; end-uses; consumer-preferences; and tariff classification.¹⁵³ Further, in relation to TBT Article 2.1 the Appellate Body has clarified that “likeness” should be understood in the same way as it has been interpreted under GATT Article III:4—that is, more broadly, as “a determination about the nature and extent of a competitive relationship between and among the products at issue.”¹⁵⁴ The regulatory purpose is not relevant *per se* to the determination of likeness¹⁵⁵ (although it may be reflected in the traditional likeness criteria and may also be relevant to the question of less favorable treatment under TBT Article 2.1 and legitimate objective under TBT Article 2.2, as discussed further below).

It is difficult to see how, under a test emphasizing the extent of a competitive relationship, products that are differentiated only by food miles would not be considered to be like products. While there may be some difference in consumer preferences for products with a low food mile tally, studies suggest that the majority of consumers are not generally influenced by environmental considerations when selecting food products.¹⁵⁶ If food products are otherwise like and share the same physical properties, end-uses and tariff classification, then it is *prima facie* probable that they would be found to be like products in relation to TBT Article 2.1.

153. *EC-Asbestos* Appellate Body Report, *supra* note 110, ¶ 101; Appellate Body Report, *Japan-Taxes on Alcoholic Beverages*, 21, WT/DS8/AB/R, WT/DS10/AB/R, WT/DS11/AB/R (Oct. 4, 1996) [hereinafter *Japan-Alcoholic Beverages II* Appellate Body Report].

154. *U.S.-Clove Cigarettes* Appellate Body Report, *supra* note 113, ¶ 120. In *U.S.-Tuna II (Mexico)*, the Panel found that US, Mexican, and other imported tuna products were “like products”; this finding was not appealed. See *U.S.-Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶ 202. In relation to GATT Article III:4, see *EC-Asbestos* Appellate Body Report, *supra* note 110, ¶ 99.

155. See, *e.g.*, *U.S.-Clove Cigarettes* Appellate Body Report, *supra* note 113, ¶ 116.

156. *Waye*, *supra* note 126, at 290.

Thus, in the context of food miles labeling schemes that would require listing the distance perishable items have travelled or that an airplane sticker be placed on air-freighted produce, such measures would have the potential to impose different requirements on like products. For example, air-freighted imported flowers would need to display an airplane sticker, whereas the identical varietal of flower that was shipped by truck from a foreign country or from within the country would not need to display a sticker. The question then becomes, however, whether there is a legal basis for categorizing those two sets of flowers as “unlike” because of their non-product related processes and production methods (npr-PPMs).¹⁵⁷

There is general disagreement among WTO members as to whether npr-PPMs, such as the sustainability or energy intensity of production methods, can be considered as a valid basis for distinguishing between otherwise like products.¹⁵⁸ But even if it were to be accepted that npr-PPMs could constitute a valid basis upon which to distinguish between products, food miles may not even be considered a PPM in the strict sense.

Food miles do not equate to how a product is manufactured or processed, but simply to how far the product has travelled (without even necessarily considering the greenhouse gas intensity of the mode of transportation). They literally distinguish between products based only on the distance from their country of origin to the country importing the goods. As a result, it is highly unlikely that a WTO panel or the Appellate Body would hold that food miles render food products “unlike,” as doing so would in effect be declaring that products are not like just because they originate in different WTO members.

To the extent food miles would be considered an npr-PPM, and to the extent npr-PPMs are a relevant consideration under the TBT Agreement, food miles may not render products unlike. As noted, one of the likeness criteria is consumer preferences. Although when surveyed, consumers indicate a preference for products with lower food miles, consumers’ actual buying habits suggest that the food miles labeling used in the United Kingdom has not influenced consumer choices.¹⁵⁹ As such, the data do not, at present, reflect a consumer preference for low food miles products.

In the recent *U.S.—Clove Cigarettes* case, the Appellate Body indicated that its previous jurisprudence regarding the meaning of “treatment no less favourable” in the Article III:4 context was “instructive” in interpreting this same language in Article 2.1 of the TBT Agreement.¹⁶⁰ The Appellate Body went on to draw from its GATT Article III:4 analysis from

157. For purposes of this discussion, we assume npr-PPMs are covered by the TBT Agreement. However, as discussed *supra*, at Part IV(B)(1)(i)(b), this is subject to debate.

158. See ECO-LABELING STANDARDS, GREEN PROCUREMENT AND THE WTO: SIGNIFICANCE FOR WORLD BANK BORROWERS, *supra* note 108; Joshi, *supra* note 126, at 74–78, 87.

159. AGRICULTURE AND AGRI-FOOD CANADA, THE UNITED KINGDOM FOOD AND BEVERAGE INDUSTRY FACTS AND TRENDS (Feb., 2011), available at <http://www.ats-sea.agr.gc.ca/eur/pdf/5730-eng.pdf> (Tesco and Marks & Spencer reported that the airplane labels did not have an impact on sales).

160. *U.S.—Clove Cigarettes* Appellate Body Report, *supra* note 113, ¶ 180.

Korea–Beef, using language similar to that ruling in explaining that in assessing a claim under TBT Article 2.1, a panel “should seek to ascertain whether the technical regulation at issue modifies the conditions of competition in the market of the regulating Member to the detriment of the group of imported products. . . .”¹⁶¹

However, the Appellate Body did not stop its analysis here, indicating that in order to find a violation of TBT Article 2.1, something more may be required than what is needed to find a violation of GATT Article III:4. The Appellate Body indicated that, while Article 2.1 prohibits both *de jure* and *de facto* discrimination, in the case of *de facto* discrimination, “the existence of detrimental impact on competitive opportunities for the group of imported *vis-à-vis* the group of domestic like products is not dispositive of less favorable treatment under Article 2.1.”¹⁶² Instead, the panel must additionally query whether the detrimental impact on imports “stems exclusively from a legitimate regulatory distinction.”¹⁶³ To make this determination, a panel should:

Carefully scrutinize the . . . design, architecture, revealing structure, operation, and application of the technical regulation at issue, and in particular, whether that technical regulation is even-handed, in order to determine whether it discriminates against the group of imported products.¹⁶⁴

This additional inquiry—asking whether unfavorable treatment can be explained by a legitimate regulatory distinction—may seem, on the surface, to create a different standard for GATT Article III:4 and TBT Article 2.1. However, the additional step in fact appears to be intended to align the GATT and TBT jurisprudence by building into the TBT analysis a consideration of GATT Article XX-style considerations.¹⁶⁵ Indeed, the Appellate Body noted that, while the TBT Agreement does not include a general exceptions provision akin to GATT Article XX, the TBT Agreement preamble contains language quite similar to the GATT exceptions provision. In particular, the sixth recital of the preamble provides:

Recognizing that no country should be prevented from taking measures necessary to ensure the quality of its exports, or for the protection of human, animal or plant life or health, of the environment, or for the prevention of deceptive practices, at the levels it

161. *Id.*

162. *Id.* ¶ 182.

163. *Id.*

164. *Id.*

165. GATT Article XX is the general exceptions provision of the GATT. *See also* Joshua Meltzer, *The WTO Ruling on U.S. Country of Origin Labelling (“COOL”)*, ASIL INSIGHTS, July 18, 2012, available at <http://www.asil.org/insights/volume/16/issue/23/wto-ruling-us-country-origin-labeling-%E2%80%9Ccool%E2%80%9D> (“the absence of an equivalent [to Article XX] exceptions provision in the TBT Agreement is what drives the AB’s approach in this case.”); *U.S.–Clove Cigarettes* Appellate Body Report, *supra* note 113, ¶ 109.

considers appropriate, subject to the requirement that they are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail or a disguised restriction on international trade, and are otherwise in accordance with the provisions of this Agreement. . .¹⁶⁶

The Appellate Body has stated that the preamble to the TBT Agreement is relevant context¹⁶⁷ for interpreting TBT Article 2.1.¹⁶⁸ Thus, if a food miles labeling requirement were to have a detrimental impact on the competitive activities of imported foods relative to domestic foods, we would still need to consider whether this disadvantage stems exclusively from a “legitimate regulatory distinction”. In *U.S.–COOL*, the Appellate Body elaborated, indicating that a distinction will not be deemed legitimate where it “is not designed and applied in an even-handed manner – because, for example, it is designed or applied in a matter that constitutes a means of arbitrary or unjustifiable discrimination . . .”¹⁶⁹

In the first instance, exporters might have difficulty demonstrating the detrimental effects caused by food miles labeling requirements. There is data to suggest that customers have not changed their purchasing patterns following the introduction of airplane label stickers on imported produce.¹⁷⁰ However, this data is several years old. As consumers are exposed to negative messages about food miles over a longer period of time, their behaviors may shift.

Assuming that detrimental effects could be shown, exporters required to affix food miles labels to their products would seemingly have a strong argument with respect to “legitimate regulatory distinction.” For the reasons discussed in Part II above, conveying the message to consumers that foodstuffs have been air-freighted or have travelled a certain distance will have a tenuous effect, at best, on reducing GHG emissions. In *U.S.–COOL*, the Appellate Body found a “disconnect” between the requirements placed on meat producers and processors and the information received by consumers. The purported objective of the measure was to inform consumers about the country of origin of various meats, yet the required format for some of the labels was to provide information that did not actually make clear the meat’s country of origin. As such, the Appellate Body found a “disconnect” between the information required to be collected and the information provided to consumers on the labels. Ac-

166. TBT Agreement, *supra* note 89, pmb1.

167. See Vienna Convention on the Law of Treaties arts. 31(1), 31(2), May 23, 1969, 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980).

168. *U.S.–Clove Cigarettes* Appellate Body Report, *supra* note 113, ¶ 89; *U.S.–Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶¶ 212–13; *US – COOL* Appellate Body Report, *supra* note 115, ¶ 268.

169. *U.S.–COOL* Appellate Body Report, *supra* note 115, ¶ 271.

170. See *AGRICULTURE AND AGRI-FOOD CANADA*, *supra* note 159.

cordingly, the measure was arbitrary and the disparate impact on imports was not justifiable.¹⁷¹

In the case of a food miles labeling requirement, it would be simpler to calculate the distance the food travelled than for the meat producers and processors to comply with the informational requirements at issue in *U.S.–COOL*. Nonetheless, the measure is, in theory, intended to provide information about carbon (un)friendliness, whereas the actual information provided—the distance food has travelled or the fact it has been air-freighted—has little bearing on the carbon friendliness or unfriendliness of the food. As such, *U.S.–COOL* may suggest that a panel would find a food miles labeling requirement to be arbitrary and unjustified—that the regulatory distinction being drawn between air-freighted and non-air-freighted produce, for example, is not a legitimate one.

Articles 2.1 and 2.2 of the TBT Agreement set forth separate requirements, such that a finding the Article 2.1 has been violated will not necessarily result in a finding that Article 2.2 has also been violated.¹⁷²

Article 2.2 provides:

Members shall ensure that technical regulations are not prepared, adopted or applied with a view to or with the effect of creating unnecessary obstacles to international trade. For this purpose, technical regulations shall not be more trade-restrictive than necessary to fulfil a legitimate objective, taking account of the risks non-fulfilment would create. Such legitimate objectives are, *inter alia*: national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment. In assessing such risks, relevant elements of consideration are, *inter alia*: available scientific and technical information, related processing technology or intended end-uses of products.¹⁷³

In the *U.S.–Tuna II (Mexico)* case, the Appellate Body explained that a “legitimate objective” will be one that is “an aim or target that is lawful, justifiable, or proper.”¹⁷⁴ Because Article 2.2 uses the term “inter alia”

171. *U.S.–COOL* Appellate Body Report, *supra* note 115, ¶¶ 347–349.

172. Panel Report, *United States–Measures Affecting the Production and Sale of Clove Cigarettes*, ¶ 7.332, WT/DS406/R (Sept. 2, 2011). To date, the Appellate Body has never found a violation of Article 2.2. The *U.S.–Clove Cigarettes* panel found a violation of Article 2.1, but not of Article 2.2. *Id.* ¶ 8.1 (c). Similarly, the Appellate Body in *U.S.–Tuna II (Mexico)* found a violation of TBT Article 2.1, but no violation of Article 2.2. *U.S.–Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶ 407. In *U.S.–COOL*, the Appellate Body reversed the Panel’s finding that the U.S. measure was inconsistent with Article 2.2 because the Panel had “ignored its own findings” that the U.S. labels did contribute towards the measure’s objective. The Appellate Body was unable to complete the legal analysis to reach its own conclusion due to insufficient factual evidence on the record regarding the degree the labeling measure contributed to the objective and with respect to less trade restrictive alternatives. *U.S.–COOL* Appellate Body Report, *supra* note 115, ¶¶ 468, 476–491.

173. TBT Agreement, *supra* note 89, art. 2.2.

174. *U.S.–Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶ 313.

when listing legitimate objectives, this should be understood to be an indicative, rather than a closed, list.¹⁷⁵ In addition, the Appellate Body has noted that the sixth and seventh recitals of the TBT Agreement preamble identify objectives that overlap significantly with those set forth in Article 2.2.¹⁷⁶ A food miles labeling requirement would seemingly fall within the iterated example of protecting the environment, as well as the similar language found in the sixth recital of the preamble. However, to determine legitimacy, a panel must try to determine what the actual aim of the regulation is, by examining the “structure and operation” of the measure.¹⁷⁷ Thus, the particulars of a specific regulation would need to be considered before concluding definitively that its objective is “legitimate.”

In *U.S.–Tuna II (Mexico)*, Mexico appealed the panel’s determination that the United States’ objective of “contributing to the protection of dolphins, by ensuring the U.S. market is not used to encourage fishing fleets to catch tuna in a manner that adversely affects dolphins” was “legitimate.”¹⁷⁸ Mexico argued that dolphin protection is a legitimate objective but the United States had chosen to further that objective through illegitimate means.¹⁷⁹ The Appellate Body noted that Article 2.2 prohibits “unnecessary obstacles” to international trade, and as such the Article contemplates that some obstacles to trade will be acceptable. Therefore, the fact that a measure burdens international trade will not, by itself, be sufficient to find that an objective is not “legitimate”.¹⁸⁰

Does the Measure Fulfill the Objective?

The Appellate Body also explained that fulfilling a legitimate objective does not require complete achievement of the objective but could be a greater or lesser contribution towards the goal. The question then is “the degree of contribution that the technical regulation makes toward the achievement of the legitimate objective.”¹⁸¹

Thus, for this portion of the analysis, a panel would have to examine whether food miles labeling contributed—at all—towards the objective of shrinking a country’s carbon footprint. As indicated above, there is some data to suggest that customers do not make purchasing decisions based on

175. *Id.* ¶ 313.

176. *Id.* The Appellate Body noted, as it did with respect to Article 2.1, that the sixth recital of the preamble is relevant context when interpreting Article 2.2. *See id.* ¶ 316. For a discussion of the Appellate Body’s findings related to Article 2.1, see discussion *supra* Part IV(B)(1)(c)(i).

177. *U.S.–Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶ 314.

178. *Id.* ¶¶ 335–337.

179. *Id.* ¶ 337.

180. *Id.* ¶ 338.

181. *Id.* ¶ 315. Also of note is *U.S.–COOL*, where the Appellate Body criticized the panel for trying to determine whether the measure fulfilled the objective completely, or to a threshold level. For this portion of the analysis, the panel should instead establish the extent to which the measure fulfils the objective. *U.S.–COOL* Appellate Body Report, *supra* note 115, ¶ 468.

food miles labels. However, in surveys, customers profess that such information does influence their buying habits.¹⁸² Even if it were determined that customers were buying fewer air-freighted or distance-shipped products as a result of labeling, it is also a question whether such changes in purchasing have any bearing on a country's overall carbon footprint. As discussed in Part II, there is little if any correlation between food miles and levels of carbon emissions for a product as a whole, due to other contributors to an overall carbon footprint. It is therefore possible that a panel would find that food miles labeling does not contribute—even minimally—to fulfilling any sort of climate-friendly objective. However, it is also possible that, for a given country's labeling scheme and affected products, a panel could find that, on the evidence, the particular food miles label correlated in some measure with fewer purchases of products that indeed had a significant carbon footprint. In such a case, the panel would then need to continue its analysis to determine whether the measure is "not more trade-restrictive than necessary to fulfil" the legitimate objective, "taking account of the risks non-fulfilment would create."

If a measure is not trade restrictive, it cannot violate Article 2.2.¹⁸³ However, the mere fact that a measure is trade restrictive does not per se indicate a violation. The question is whether the degree of restrictiveness is necessary, taking into consideration the consequences of non-fulfillment of the objective.

The Appellate Body explained in *U.S.—Tuna II (Mexico)* that in assessing whether a measure is more trade restrictive than necessary, a panel should consider: "(i) the degree of contribution made by the measure to the legitimate objective at issue; (ii) the trade-restrictiveness of the measure; and (iii) the risks at issue and the gravity of the consequences that would arise from non-fulfilment of the objective(s) pursued by the Member through the measure."¹⁸⁴ The Appellate Body also indicated that this analysis will usually entail a comparison of the measure at issue with possible alternatives to the measure.¹⁸⁵

Any labeling requirement would need to be evaluated in connection with its specific criteria and the products to which the label would apply. However, it seems likely that a Panel would find a food miles labeling requirement to contribute only minimally, if at all, towards a legitimate objective (in this case environmental protection). In this regard, the Appellate Body has indicated the panel must determine the contribution the measure has actually made, in practice, rather than what the member's aspirations or predictions are.¹⁸⁶

It is not especially burdensome or expensive to affix an airplane sticker or "distance travelled" label onto foodstuffs or food packaging. In

182. AGRICULTURE AND AGRI-FOOD CANADA, *supra* note 159.

183. VAN DEN BOSSCHE & ZDOUC, *supra* note 127, at 874.

184. *U.S.—Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶ 322.

185. *Id.*

186. *Id.* ¶ 317.

addition, it may be the case that such labels do not influence consumer decision-making and as such are not particularly trade restrictive. Nonetheless, such a labeling requirement would not be burden-free. Consumers have expressed a preference for locally sourced produce and are increasingly concerned with the environmental impact of their purchases. A given member may be able to demonstrate that its exporters have lost sales as a result of a labeling measure. In addition, there are some costs, even if small, involved in preparing and affixing labels. Furthermore, requiring one product to bear an airplane sticker while the identical domestic product need not, arguably “modify the *conditions of competition* in the relevant market to the detriment of imported products.”¹⁸⁷

A food miles labeling scheme would, as noted above, likely only contribute minimally towards an environmental protection objective. As such, the consequences of not meeting that minimal level of contribution could be viewed as rather minor.

It would be for the complaining member to show that an alternative measure or measures would be less trade restrictive while still fulfilling the objective of the member imposing the measure. In this regard, a member could propose a voluntary labeling scheme as an alternative (as in *U.S.–Tuna II (Mexico)*). While producers would be unlikely to elect to affix an airplane sticker on their produce, producers might choose to inform consumers of positive environmental attributes associated with the transport or production of their foodstuffs. A voluntary scheme that gave producers such an opportunity would arguably give consumers more relevant information with respect to the environmental implications of purchasing various foods and would not inherently disadvantage imported products relative to domestic ones.

It is arguable though that a voluntary scheme along the lines just described would not achieve the same objective sought by the member. The member may particularly wish to use negative rather than positive messaging to discourage certain purchases rather than to encourage other ones. In *U.S.–Tuna II (Mexico)*, the Appellate Body scrutinized Mexico’s alternative measure closely and reversed the panel’s conclusion that the proposed alternative measure would achieve the U.S.’s objectives to the same degree as the measure at issue.¹⁸⁸ Given the potential difficulty in identifying a suitable alternative measure, it is possible that a complaining member would have difficulty demonstrating a violation of Article 2.2.¹⁸⁹ Indeed, the Appellate Body has yet to find a violation of this TBT Agreement provision. However, if the panel were to find that the food miles labeling scheme makes *no contribution* towards fulfilling the member’s ob-

187. Appellate Body Report, *Korea–Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, ¶ 137, WT/DS161/AB/R (Dec. 11, 2000) (emphasis in the original) [hereinafter *Korea–Beef* Appellate Body Report]; Appellate Body Report, *Thailand–Customs and Fiscal Measures on Cigarettes from the Philippines*, ¶ 128, WT/DS371/AB/R (June 17, 2011) [hereinafter *Thailand–Cigarettes (Philippines)* Appellate Body Report].

188. *U.S.–Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶ 330.

189. See Voon, Mitchell & Gascoigne, *supra* note 125, at 13.

jective, it likely would not require the complaining member to propose an alternative measure.¹⁹⁰

Article 2.4 of the TBT Agreement provides that “[w]here technical regulations are required and relevant international standards exist or their completion is imminent, Members shall use them, or the relevant parts of them, as a basis for their technical regulations except when such international standards or relevant parts would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued.”¹⁹¹

The Appellate Body has indicated that “international standards” are standards promulgated by international standardizing bodies, where such bodies are open to the participation of at least all WTO members.¹⁹² The International Standards Organization (ISO) has partnered with the WTO with respect to standards issues and is understood to be a promulgator of international standards.¹⁹³ The ISO has created a set of standards, known as the 14020 series, to address different types of environmental labeling. There are three types of environmental labeling—deemed Types I, II and III—within the 14020 series.¹⁹⁴

The standard most likely to be found applicable to food miles labeling requirements is Type II environmental labeling, which falls under ISO 14021.¹⁹⁵ ISO 14021 covers the situation where manufacturers, retailers and others use labels on their products that connect the product with a favorable environmental impact, *e.g.* by labeling the product “sustainable” or “carbon neutral.” Although ISO 14021 generally addresses positive environmental claims, the ISO has discussed carbon footprint or food miles statements in the context of ISO 14021.¹⁹⁶ ISO 14021 provides that climate change effects should be considered across the lifecycle of a product. Accordingly, the ISO has stated that “low CO₂-emissions during the trans-

190. In *U.S.—Tuna II (Mexico)*, the Appellate Body indicated that under such circumstances a comparison with an alternative measure may not be required. See *U.S.—Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶ 322 & n. 647.

191. TBT Agreement, *supra* note 89, art. 2.4.

192. See *U.S.—Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶¶ 349–64. See also TBT Agreement, *supra* note 89, Annex 1.4.

193. See, *e.g.*, TBT Agreement, *supra* note 89, Annex 1 (adopting ISO definitions); *id.* Annex 3 (providing for standardizing bodies to notify to the ISO their acceptance or withdrawal from the code of good practice for the preparation, adoption and application of standards); *Technical Information on Technical Barriers to Trade*, WTO, http://www.wto.org/english/tratop_e/tbt_e/tbt_info_e.htm (last visited May 15, 2014) (noting that “ISO has developed more than 9,600 international standards covering almost all technical fields.”).

194. See Richard Bonsi, A.L. Hammett & Bob Smith, *Eco-labels and International Trade: Problems and Solutions*, 42 *J. WORLD TRADE* 407, 410–11 (2008).

195. Type I labels, covered by ISO 14024, require life cycle analyses. See discussion *infra* Part IV. Type III labels addressed by ISO 14025, cover environmental declarations that are based on independently verified data. These labels list multiple potential impacts of the product during its life cycle. As such it has been suggested that, while such labels could be relevant for business-to-consumer interactions, they are likely most useful for business-to-business relationships. See *id.*, at 411.

196. See ISO, ENVIRONMENTAL LABELS AND DECLARATIONS: HOW ISO STANDARDS HELP 13 (2012), available at <http://www.iso.org/iso/environmental-labelling.pdf>.

port phase” should not be “used to mask a higher overall burden due to high production emissions.”¹⁹⁷

In the *EC–Sardines* case, the Appellate Body interpreted the requirement in TBT Article 2.4 that members use international standards “as a basis for their technical regulations,” indicating that an international standard serves “as a basis for” a technical regulation when it is used as the principal constituent or fundamental principle for the purpose of enacting the technical regulation.¹⁹⁸ In that dispute, the Appellate Body stated that, whatever “as a basis for” means, “if the technical regulation and the international standard *contradict* each other, it cannot properly be concluded that the international standard has been used “as a basis for” the technical regulation.”¹⁹⁹

It is difficult to determine in the abstract whether a given food miles measure would fit within ISO 14021, but it seems possible that a measure requiring only food miles information, or the affixing of an airplane sticker, may be inconsistent with ISO 14021 and as such render the measure vulnerable under Article 2.4 of the TBT Agreement.

In summary, a food miles labeling scheme would implicate a number of TBT Agreement provisions. Of these, the TBT jurisprudence suggests that a breach of Article 2.1 would likely be the easiest to demonstrate.

2. GATT Article III:4

While the TBT Agreement provides specialized rules covering product labeling schemes and other technical regulations or standards, it does not displace GATT provisions, which may also be relevant. The Appellate Body has held that members’ obligations under these two agreements are cumulative, and if a measure falls within the scope of both the TBT Agreement and the GATT, then the provisions of both agreements must be complied with.²⁰⁰

The national treatment requirement set out in Article III:4 of the GATT requires that WTO members accord imported like products treatment, which is “no less favourable” than products of national origin in respect of all laws, regulations and requirements affecting internal sale, offering for sale, purchase, transportation, distribution or use.

For any measure to fall within the scope of this provision, it must be a “law, regulation or requirement.” Exactly what measures will fall within the scope of the “requirements” subject to Article III:4 is unclear. Many of the cases discussed above in Part I.C.2 of this article related to claims under Article III:4 of the GATT, and considered which measures may constitute “requirements.”²⁰¹ A measure will not be a “requirement” if it

197. *Id.*

198. *EC–Sardines* Appellate Body Report, *supra* note 111, ¶¶ 243–44.

199. *Id.* ¶ 248.

200. *EC–Asbestos* Appellate Body Report, *supra* note 110, ¶ 80.

201. *E.g., Canada–Autos* Panel Report, *supra* note 96, ¶¶ 10.106–10.107.

is a private action that cannot be attributed to the government.²⁰² Further, voluntary schemes are less likely to constitute “requirements” than mandatory ones.

Since the GATT era, the concept of laws and regulations that affect the “internal sale, offering for sale, purchase, transportation, distribution or use of goods” has been interpreted broadly to include not only measures that directly regulate the sale of products, but all measures that “might adversely modify the conditions of competition between domestic and imported products.”²⁰³ A labeling scheme is likely to meet this threshold if it will make imported products less commercially attractive.²⁰⁴ Thus, a food miles labeling requirement will violate Article III:4 if it accords imported like products treatment less favorable than that accorded to domestic products.

a. Like Products

The analysis of whether the products are like for the purposes of GATT Article III:4 would be very similar to that undertaken in relation to TBT Article 2.1. As discussed above,²⁰⁵ the fundamental question being determined is “the nature and extent of a competitive relationship between and among the products at issue.”²⁰⁶ Food miles schemes distinguish between products solely on the basis of the distance the products have travelled. This factor is not directly relevant to the characteristics used by panels and the Appellate Body to determine the competitive relationship, namely the products’ physical properties, end-uses, consumer-preferences, and tariff classification.²⁰⁷ Note that, though it has been suggested that food miles may influence consumer preferences, actual buying habits of consumers have not yet borne this contention out.²⁰⁸ Thus, the products are likely to be considered, *prima facie*, to be like under Article III:4. Further, given that it is unlikely that food miles can be considered a PPM, it is highly unlikely that a panel or Appellate Body would find that food miles render products unlike on the basis of a npr-PPM argument.

b. Treatment No Less Favourable

When considering if a member has accorded imports treatment, which is ‘no less favourable’ than the treatment local products receive, the Ap-

202. *Id.*

203. *Canada–Autos* Panel Report, *supra* note 96, ¶ 10.80 (citing Report of the Panel, *Italy–Discrimination Against Imported Agricultural Machinery*, ¶ 12, L/833 (Jul. 15, 1958) GATT B.I.S.D. (7th Supp.) at 60).

204. See Lennert Steijger, Note, *Genetically Modified Food for Thought: EU Labeling Legislation Examined Under the GATT 1994*, 12 *TILBURG FOREIGN L. REV.* 297, 305 (2004–2005).

205. See *infra* Part IV(B).

206. See *EC–Asbestos* Appellate Body Report, *supra* note 110, ¶ 99.

207. *Id.* ¶ 101; *Japan–Alcoholic Beverages II* Appellate Body Report, *supra* note 153, at 21.

208. See *AGRICULTURE AND AGRI-FOOD CANADA*, *supra* note 159.

pellate Body has held that it is necessary to compare the treatment of imports as a group with domestic products as a group.²⁰⁹ In the *Korea–Beef* case, the Appellate Body indicated that the issue was whether the measure had modified the conditions of competition to the detriment of imported products.²¹⁰

Food miles and other eco-labeling schemes do not prevent imported goods from being sold in a market, and they do not necessarily impose an additional cost on imported products as compared to local products (assuming the labeling requirement applies to goods irrespective of origin).²¹¹ It may therefore appear that food miles labeling schemes that apply to all products do not treat imports less favourably than local goods. However, simply because a labeling scheme applies to all like products does not mean that it accords them equal treatment. What must be considered is the impact of the labeling scheme on the competitive opportunities of the products, and how the measure impacts the market for the like products.²¹² This is a fact-specific exercise, which will depend on the characteristics of the market and products at issue.

The Appellate Body has recently held that access to a “dolphin-safe” label for tuna products may constitute a competitive advantage for those products, and that this advantage is provided by the measures themselves.²¹³ A dolphin-safe tuna labeling scheme is different from a food miles labeling scheme, as the “advantage” in the former is access to the “dolphin-safe” label,²¹⁴ while the latter requires all products to be labeled (and the distinction between products is in the food miles tally reported on the label). Yet an analogous argument could be made that requiring food miles tallies to be included on labels advantages products with low tallies, as environmentally conscious consumers may be more likely to buy those products. While this advantage stems from consumer decisions, rather than being a direct consequence of the measure itself, the content of the label is controlled by the requirements of the food miles program.²¹⁵ Therefore, any competitive advantage accorded to products by a food miles labeling scheme may constitute less favourable treatment for other like products that have travelled a longer distance to reach the market. Further, depending on the precise requirements of the scheme, the mere obligation to affix an additional label on a product, for example an airplane sticker, may itself be a disadvantage in comparison to products that do not have to go to the additional expense of affixing a label or sticker. That is, requiring additional stickers or labels to be added to products

209. *EC–Asbestos* Appellate Body Report, *supra* note 110, ¶ 100.

210. *See Korea–Beef* Appellate Body Report, *supra* note 187, ¶¶ 143–151.

211. *Waye*, *supra* note 126, at 293. Of course if local products were deemed to have “zero” food miles or were exempt from the labeling requirement then this would most likely constitute favorable treatment.

212. *U.S.–COOL* Panel Report, *supra* note 130, ¶¶ 7.298–7.302.

213. *U.S.–Tuna II (Mexico)* Appellate Body Report, *supra* note 114, ¶¶ 233–240.

214. *Id.* ¶ 238.

215. *Id.*

takes time, printing costs and have the potential to occupy valuable label space that could otherwise be utilized by manufacturers.

The success of a challenge to food miles on the basis of Article III:4 will therefore depend on whether there is sufficient evidence to demonstrate that food miles will affect consumer decisions, defined broadly. In the recent *U.S.–Tuna II (Mexico)* case, the Appellate Body held that there was strong evidence U.S. consumers prefer dolphin-safe tuna.²¹⁶ As noted above, there is limited evidence that consumers prefer foods that have a low food miles tally.²¹⁷ However, this evidence does not have to relate to the preferences of end consumers of products, it may also relate to the choices of suppliers and processors. In the *U.S.–COOL* case, the Appellate Body held that imported livestock was disadvantaged by the measure as several plants and companies had refused to process imported livestock as a result of the measure.²¹⁸ If wholesalers or retailers were less inclined to market or distribute goods with high food miles, this could provide evidence that food miles labeling causes less favourable treatment to otherwise like products.

If it is accepted that a labeling scheme may accord an advantage to products with a low food miles tally (and therefore less favourable treatment to products with a higher tally), to prove a violation of the national treatment obligation it must then be shown that this discriminates between domestically produced goods and imported goods. As food miles are based only on the distance a product travels to market, it is likely that a complaining WTO member could establish that such a labeling scheme treated imports less favorably than domestically produced goods.²¹⁹ It is assumed that, in most cases, domestically produced goods will have a significantly lower miles tally than imported goods.²²⁰

3. GATT Article I:1

Article I:1 of the GATT is a Most-Favored Nation (MFN) clause, which stipulates that:

With respect to customs duties and charges of any kind imposed on or in connection with importation or exportation . . . and with respect to all matters referred to in paragraphs 2 and 4 of Article III, any advantage, favour, privilege or immunity granted by any Member to any product originating in or destined for any other

216. *U.S.–Tuna II (Mexico)* Panel Report, *supra* note 135, ¶¶ 7.288–7.289.

217. See also ABARE Report, *supra* note 8, at 19 (referring to a study that ranked the importance to consumers of sixteen food attributes, with food miles and carbon labeling ranking as fourteenth and sixteenth, respectively); *cf. id.* at 12 (referring to studies which demonstrate that other eco-labeling schemes have influenced consumer demand).

218. See *U.S.–COOL* Appellate Body Report, *supra* note 115, n.981.

219. Waye, *supra* note 126 at 293–94.

220. In comparing the carbon intensity of U.K. and New Zealand products, it has been assumed that no shipping occurs to bring U.K. products into the market, in comparison to the significant distance travelled by N.Z. imports. See ABARE Report, *supra* note 8, at 17.

country shall be accorded immediately and unconditionally to the like product originating in or destined for the territories of all other Members.

The MFN obligation contained in Article I:1 therefore applies to any custom duties or charges, such as tariffs, and to all “laws, regulations and requirements affecting [the goods] internal sale, offering for sale, purchase, transportation, distribution or use” (the matters referred to in Article III:4 of GATT). The coverage of this article is thus very broad and could encompass eco-labeling schemes, differential tariffs, carbon taxes and a variety of other food miles measures.²²¹

With respect to these measures, WTO members are obliged to:

- a) extend any advantage, favor, privilege, or immunity that it has granted to goods originating in another country;
- b) immediately and unconditionally;
- c) to like products;
- d) originating in other WTO members.
- e) The meaning of each of these terms is considered below.

a. What Is an “Advantage, Favor, Privilege or Immunity”?

For certain pecuniary measures, such as differential tariff rates, the identification of an advantage that is accorded to some products is clear. Non-fiscal regulatory measures may also constitute an advantage. For example, in *EC-Bananas III* the panel held that allowing some importers to go through a less complicated licensing procedure could constitute an “advantage” under Article I:1. An omission, such as an exemption from customs fees, may also constitute an advantage.²²² The obligation contained in Article I:1 applies regardless of the size of the advantage or privilege at issue, as even a small advantage may cause a breach²²³ and applies to both *de facto* and *de jure* discrimination.²²⁴

It is clear that a differential tariff or a carbon tax that was linked to food miles would constitute an “advantage” being granted to certain products (those that benefit from the lower tax rate). Whether or not a food miles labeling scheme constitutes an “advantage, favour, privilege or immunity” is less straightforward. It is commonly argued that eco-labeling schemes may constitute an advantage if their requirements do not apply to all like products (for example, the E.U. requirement that GM foods must

221. On the breadth of the MFN obligation, see PETROS C. MAVROIDIS, GEORGE A. BERMAN & MARK WU, *THE LAW OF THE WORLD TRADE ORGANIZATION (WTO): DOCUMENTS, CASES AND ANALYSIS* 140 (2010).

222. MAVROIDIS, BERMAN & WU, *supra* note 221, at 143 (discussing Report of the Panel, *United States–Customs User Fee*, L/6264 (Nov. 25, 1987), GATT B.I.S.D. (35th Supp) at 245).

223. Appellate Body Report, *Canada–Certain Measures Affecting the Automotive Industry*, ¶ 79, WT/DS139/AB/R (May 31, 2000) (citation omitted) [hereinafter *Canada–Autos Appellate Body Report*].

224. *Id.* ¶ 78.

be labeled, while non-GM foods do not require such labels).²²⁵ Thus, a carbon labeling scheme that required goods that had been transported by air to be marked as such, but did not require like products that were transported by sea to be labeled, may be considered to grant an advantage or favor to those products shipped by sea, as they are not subject to the costs and competitiveness impacts of the labeling requirement.²²⁶ In this instance, the advantage accorded to foods transported by sea or road is that they are omitted from the labeling requirement.

On its face, a scheme mandating that all labels state the distance that the product has travelled from its point of origin does not constitute an “advantage” for any food products because all foods are subject to the labeling requirement. Yet a lower food mile tally may give products a competitive edge in the market when all foods must be labeled with their food miles.²²⁷ This may arguably constitute an “advantage” for goods imported from nearby countries when compared to those imported from more distant WTO members (even though all of these goods would be subject to the labeling requirement). If this latter argument were accepted, then food miles labeling schemes could constitute an “advantage, favour, privilege or immunity” even if they apply to all food products.

b. Like Products

Whether or not the products that are subject to a food miles labeling scheme are “like” will depend upon an analysis of the four criteria detailed above in relation to the TBT Agreement and GATT Article III:4: namely, the products’ physical properties; the products’ end-uses; consumer-preferences; and tariff classification. While these criteria were developed in cases in relating to Article III of the GATT, they have also been applied in cases analyzing Article I.²²⁸ Although similar criteria apply under each of these articles, it has been suggested that the scope of “like products” under Article I should be narrower than that under Article III:4 and that greater emphasis should be given to the tariff classification of the products.²²⁹

Even if a narrow approach is taken to the analysis of whether products are “like” for the purposes of Article I, it is likely that food products that are differentiated only by the miles they have travelled from their point of origin would be considered “like.” For the reasons discussed above in section I.D(a), it is unlikely that a panel or the Appellate Body would hold that products are “unlike” on the basis of the distance they have travelled when imported.

225. Steijger, *supra* note 204, at 309.

226. This sort of labeling requirement has already been employed by companies in the UK including Marks & Spencer and Tesco. See Saunders, *supra* note 106, at 86.

227. See *supra* Part II(D).

228. See, e.g., Panel Report, *United States–Certain Measures Affecting Imports of Poultry from China*, ¶ 7.425, WT/DS392/R (Sept. 29, 2010); Panel Report, *Indonesia–Certain Measures Affecting the Automobile Industry*, ¶ 14.141, WT/DSS4/R (July 2, 1998).

229. MAVROIDIS, BERMANN & WU, *supra* note 221, at 146.

c. Accorded Immediately and Unconditionally to the Products of Other Members

Article I of the GATT requires that any advantage bestowed on products imported from one country be accorded immediately and unconditionally to like products imported from any WTO member. The requirement that the advantage be accorded to WTO members “immediately” is relatively unproblematic and is generally considered in tandem with the requirement that it be accorded unconditionally.²³⁰ However, interpreting the term “unconditionally” is less clear-cut. Essentially, the requirement seems to be that no additional conditions may be imposed when an advantage is accorded to a WTO member in accordance with the MFN obligation, but any conditions that were already part of the initial granting of the advantage to the relevant imports country may be imposed.²³¹ For example, if a tariff reduction on goods from Country A were conditional upon those goods being certified as environmentally sustainable, it would not violate the requirement for an advantage to be accorded “unconditionally” if that same certification was required for the tariff reduction to be granted to goods from Country B.

There is some debate as to whether Article I:1 requires a comparison between groups of imports (i.e. do imports from Country A as a whole receive the advantages accorded to imports from Country B), or between individual imported products (i.e. is the advantage that is extended to *some* imports from Country A extended to *all* like products imported from Country B).²³² In relation to food miles, the distinction between these two approaches is not likely to be of great significance. As food miles are based on the distance from the country of origin to the importing country, it is likely that all imports from any given country will receive relatively similar treatment. For instance, a study commissioned by the U.K. Government, which evaluated the concept of food miles, calculated the miles for each product on the basis of the distance from the capital city of the country of origin, without any reference to where within that country the foodstuffs were actually produced.²³³

4. Potential Defenses to GATT Violations – Article XX

If a food miles scheme were held to violate either GATT Article I or Article III, then the defending WTO member may claim that the measure is justified by one of the environmental exceptions in Article XX. These exceptions are Article XX paragraphs (b) and (g), which protect measures

230. *Canada–Autos* Appellate Body Report, *supra* note 223, ¶ 85.

231. *Canada–Autos* Panel Report, *supra* note 96, ¶ 10.24; MAVROIDIS, BERMAN & WU, *supra* note 221, at 146.

232. See, e.g., Lothar Ehring, *De Facto Discrimination in World Trade Law: National and Most-Favoured-Nation Treatment—or Equal Treatment?*, 36 J. WORLD TRADE 921 (2002); Nicolas F. Diebold, *Standards of Non-discrimination in International Economic Law*, 60 INT'L & COMP. L.Q. 831 (2011).

233. DEFRA REPORT, *supra* note 30, at Annex 1, A1–11.

“necessary to protect human, animal or plant life or health” and those “relating to the conservation of exhaustible natural resources” respectively.

a. Article XX(g): Relating to the Conservation of Exhaustible Natural Resources

One of the major motivations for buying products with low food miles is reducing the environmental impact of greenhouse gas emissions from shipping food.²³⁴ While neither the Appellate Body nor any panel has yet had to decide this point, the temperate climate or “cool air” could be considered to be “exhaustible natural resources” protected by Article XX(g).²³⁵ The Appellate Body has held that clean air emissions standards may fall within the scope of Article XX(g), which supports the view that a livable climate could also fall within the scope of this provision.²³⁶

The standard for determining whether a measure “relates to” an exhaustible natural resource is relatively undemanding. This test can be satisfied by demonstrating that a “real” connection exists between a measure and its objective.²³⁷ Transport of food products by air, road or ship produces greenhouse gas emissions, and therefore it could be said that labeling relating to the carbon footprint of this transport also “relates to” the objective of conserving a livable or temperate climate.²³⁸ However, food miles do not necessarily equate to greenhouse gas emissions, as they only take account of the distance that food has travelled rather than the mode of transportation and other factors which may affect emissions. It is therefore arguable whether food miles schemes “relate to” the objective of conserving a temperate climate.

In order for a measure to be protected by Article XX(g) it must also be implemented “in conjunction with restrictions on domestic production or consumption.” If a food miles labeling scheme applied to both domestic and imported goods, then this requirement would most likely to be satisfied.

234. ABARE Report, *supra* note 8, at 13.

235. Robert Howse & Antonia L. Eliason, *Domestic and International Strategies to Address Climate Change: an Overview of the WTO Legal Issues*, in INTERNATIONAL TRADE REGULATION AND THE MITIGATION OF CLIMATE CHANGE: WORLD TRADE FORUM, *supra* note 126, at 48, 71–73; Andrew Green, *Climate Change, Regulatory Policy and the WTO*, 8 J. INT'L ECON. L. 143, 183 (2005).

236. See Appellate Body Report, *United States—Standards for Reformulated and Conventional Gasoline*, WT/DS2/AB/R (Apr. 29, 1996) [hereinafter *U.S.—Gasoline Appellate Body Report*].

237. Appellate Body Report, *United States—Import Prohibition of Certain Shrimp and Shrimp Products*, ¶ 141, WT/DS58/AB/R (Oct. 12, 1998).

238. Waye, *supra* note 126, at 295.

b. Article XX(b): Necessary to Protect Human, Animal or Plant Life or Health

Given the potentially grave impacts of climate change on the environment and the threat to human life and health, it is arguable that measures based on food miles may also fall within the scope of Article XX(b).²³⁹ This provision is subject to a strict necessity test, and not all measures that may help mitigate climate change will fall within its scope.

Whether a measure is “necessary” within the meaning of Article XX(b) is determined through a “weighing and balancing” of factors,²⁴⁰ including: the “‘relative importance’ of the interests or values furthered by the challenged measure”;²⁴¹ the “contribution of the measure to the realization of the ends pursued by it”;²⁴² and the extent to which the measure is restrictive of trade.²⁴³ Further, what must be shown to be necessary is not the measure in its entirety, but rather “the treatment giving rise to the finding of less favourable treatment.”²⁴⁴ In relation to a food miles labeling scheme, it is the labels themselves (which embody the calculation of the food miles), which are the cause of the less favorable treatment.

Considering how these tests apply to food miles, it is likely that climate change mitigation would be considered to be an interest of high importance. However, a defending member may struggle to demonstrate that its food miles measure contributes to climate change mitigation. Given the size of the climate change issue, no single measure by a WTO member is likely to make a major contribution to solving the problem, and the exact benefits of a measure may be uncertain at the time at which the measure is introduced. While not directly relevant to the measure at issue, in *Brazil-Retreaded Tyres* the Appellate Body cited global warming as an example of a situation where the effects of a measure “can only be evaluated with the benefit of time.”²⁴⁵ In addition, the *Brazil-Retreaded Tyres* report noted that Article XX(b) may apply even if the individual measure alone could not redress the risk to human, plant or animal health, and was part of a “comprehensive policy comprising a multiplicity of interacting measures.”²⁴⁶ However, the Appellate Body then went on to note that where a measure is particularly trade restrictive (such as an import ban), “it would be difficult for a panel to find that measure necessary unless it is satisfied that the measure is apt to make a material contribution to the achievement of its objective,” rather than merely a “marginal or insignifi-

239. *Id.* at 294.

240. *Korea-Beef* Appellate Body Report, *supra* note 187, ¶ 164.

241. *U.S.-Gambling* Appellate Body Report, *supra* note 86, ¶ 306 (footnote omitted).

242. *Id.*

243. *Id.*

244. *Thailand-Cigarettes (Philippines)* Appellate Body Report, *supra* note 187, ¶ 177.

245. Appellate Body Report, *Brazil-Measures Affecting Imports of Retreaded Tyres*, ¶ 151, WT/DS332/AB/R (Dec. 3, 2007).

246. *Id.*

cant contribution.”²⁴⁷ Therefore while it may not be necessary to show that a measure alone can achieve its objective, it must be shown that it makes more than a “marginal or insignificant” contribution—or in the case of more restrictive measures such as import bans a material contribution—to its stated end.

In order to establish that food miles contribute to climate protection, a member would need to demonstrate that there was a reduction in greenhouse gas emissions. This would assume that either a food miles labeling scheme, or a tax linked to food miles, affected the market and reduced the distance that food was being transported. Even if this could be demonstrated, it would then need to be shown that this led to a quantitative reduction in greenhouse gas emissions associated with the production and transportation of the relevant food products. Given that a food miles scheme is unlikely to be considered particularly trade restrictive—it would not, for example, be similar to an import ban in severity—its contribution to reducing greenhouse gas emissions would only need to be more than marginal or insignificant. Studies on the efficacy of food miles as an environmental tool have found, however, that often locally produced goods use more energy in production and storage than imported goods, outweighing the elimination of emissions from transport.²⁴⁸ If a food miles scheme were to lead to consumers purchasing more locally produced foods, but those foods had a higher greenhouse gas intensity than food that travelled further from its point of origin, then this scheme would not be apt to contribute to climate change mitigation and likely would fall outside the scope of the Article XX(b) exception.

The final factor to be considered to determine if a food miles scheme is “necessary” is the trade restrictiveness of the measure. Environmental labeling schemes are less trade restrictive than many other measures, and voluntary schemes even less so than mandatory ones.²⁴⁹ Thus, a food miles labeling scheme is not likely to be considered particularly trade restrictive, which weighs in favor of it being considered “necessary.”

If a measure is considered to be “necessary” following this weighing and balancing of factors, then the next step of analysis under Article XX(b) is to assess whether there are less trade restrictive alternatives that are reasonably available. One such alternative may be carbon footprint labels, which take account of the greenhouse gas emissions caused during the life-cycle of a product, rather than just the transport from its country of origin. These labels would be less trade restrictive, as they provide a more balanced analysis of the sustainability of food products and are less likely to disadvantage imports (*vis-à-vis* domestic products). However, life cycle analysis is very costly to undertake, which may mean that it is not “reasonably available” as an alternative to food miles.²⁵⁰

247. *Id.*

248. See, e.g., ABARE Report, *supra* note 8, at 15–17; DEFRA REPORT, *supra* note 30. See also discussion *supra* Part III(A)(4).

249. Joshi, *supra* note 126, at 90.

250. Life cycle analysis is discussed in more detail *infra* Part IV(A).

c. The Chapeau of Article XX

In order for a food miles scheme to be justified under either Article XX(b) or (g) of GATT, it must also comply with the Article's chapeau. The chapeau requires that measures are not "applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade." Analysis under the chapeau of Article XX focuses on whether the application of the measure is discriminatory, as opposed to whether the measure itself is discriminatory.²⁵¹

Food miles measures may constitute a means of arbitrary or justifiable discrimination, depending on how they are implemented. If a food miles measure solely requires a calculation of distance travelled, without reference to the mode of transport used, then this may constitute unjustifiable discrimination as the emissions caused by sea transportation are considerably lower than those from road or air shipment.²⁵² Likewise, a food miles scheme may constitute unjustifiable discrimination where it disadvantages products that have a lower overall carbon footprint than domestically produced foods.

5. Subsidies and the SCM Agreement

Following the recent global financial crisis, several commentators have raised the possibility that "buy local" schemes could constitute subsidies within the scope of the SCM Agreement.²⁵³ Food miles measures, which encourage the purchase of locally produced goods, may also potentially be considered to be a form of subsidy.

In order for a measure to constitute a "subsidy," as defined in Article 1 of the SCM Agreement, it must involve a "financial contribution" from the government of a WTO member, which confers a "benefit" on the recipient. The term "financial contribution" includes many measures in addition to direct payments by governments, for instance, tax credits and funding mechanisms.²⁵⁴ Unless a food miles scheme were accompanied by a tax incentive for locally produced goods or similar monetary benefits provided by the government, it is unlikely that it would fall within the scope of subsidies that are regulated by the SCM Agreement. Many of the "buy local" schemes that may raise issues under the SCM Agreement are linked to funding provided by the government, such as stimulus funding

251. *U.S.—Gasoline* Appellate Body Report, *supra* note 236, at 22.

252. For details of the impact of various kinds of freight methods, see DEFRA REPORT, *supra* note 30.

253. See generally RAYMOND J. AHEARN, CONG. RESEARCH SERV., R40461, THE GLOBAL ECONOMIC DOWNTURN AND PROTECTIONISM (2009); Gary N. Horlick & Peggy A. Clarke, *WTO Subsidies Discipline During and After the Crisis*, 13 J. INT'L ECON. L. 859, 865 (2010); Brendan Ruddy, Note, *The Critical Success of the WTO: Trade Policies of the Current Economic Crisis*, 13 J. INT'L ECON. L. 475 (2010).

254. Agreement on Subsidies and Countervailing Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization art. 1.1(a)(1), 1867 U.N.T.S. 154 at Art. 1.1(a)(1) [hereinafter SCM Agreement].

provided by the U.S. Government under the Recovery and Reinvestment Act of 2009.²⁵⁵

In addition to meeting these two requirements, a subsidy must also be “specific.”²⁵⁶ Prohibited subsidies—those linked to export performance or domestic content requirements—are deemed to be specific. For other subsidies to be “actionable” under the SCM Agreement, they must only be provided to a particular enterprise or industry.²⁵⁷ A food miles scheme that was limited to a certain sector, such as meat or dairy, would meet this specificity requirement. However, unless use of a food miles measure were linked to a financial incentive provided by the WTO member, it is unlikely that such a measure would fall within the scope of subsidies as defined by the SCM Agreement.

In relation to food miles, it is important to note that subsidies for agricultural commodities are subject to the specialized rules of the Agreement on Agriculture, as well as to aspects of the SCM Agreement.²⁵⁸ Agricultural products are defined in Annex I to the Agreement, which lists products in Chapters 1-24 of the Harmonized System, except for fish and fish products.²⁵⁹ The subsidies provisions of the Agreement on Agriculture relate to the total aggregate levels of subsidies provided by the relevant WTO member, rather than to the form of subsidies (as regulated by the SCM Agreement).²⁶⁰ The Agreement on Agriculture rules applying to subsidies are complex and relate to individual commitment levels for each WTO member, which makes it difficult to analyze in the abstract whether food miles schemes would be consistent with these provisions.

As we have seen in this Part, there are numerous potential bases for a WTO challenge relating to a food miles labeling requirement. Given these vulnerabilities, and the lack of correlation between food miles and environmental harm, thought must be given to alternative measures governments could pursue. We address these issues in Part IV, below, giving consideration to fairness and equity issues as well as practicability and efficacy.

IV. DEVELOPMENT CONSIDERATIONS AND ALTERNATIVES TO FOOD MILES

A. *Life Cycle Analysis – A Better Approach?*²⁶¹

Although the use of the food miles concept is still prevalent, as noted above there has been increasing recognition that this concept is flawed. In

255. Horlick & Clarke, *supra* note 253, at 865–866; Ruddy, *supra* note 253, at 483 n.38.

256. SCM Agreement, *supra* note 254, art. 1.2.

257. *Id.* art. 2.1.

258. Agreement on Agriculture, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 410 arts. 13, 21.

259. *Id.*, Annex 1, art. 1(i).

260. In relation to domestic subsidies, see *id.* art. 6.

261. “Life cycle analysis” is also sometimes referred to as “life cycle assessment” in the literature.

particular, there is not a strong correlation between food miles and GHG emissions. There is widespread agreement that a more accurate way to measure the environmental harm associated with a product is to conduct a life cycle analysis (LCA). Such an analysis takes into account the GHG emissions resulting from all stages of the production process—from “cradle to grave” to identify a product’s overall “carbon footprint.” Transportation is a relevant component of the analysis but is measured in a more scientific way than merely identifying the distance travelled. Instead, the type of transportation (air, rail, ship, truck, etc.) is taken into account. This leads to an accounting for the significant differences in the emissions caused by different modes of transport, with air freight recognized as far exceeding the other modes. However, LCA makes clear that even this distinction is of limited significance in the overall analysis, because transportation only comprises a small percentage—usually estimated as under ten percent—of the total emissions of an agricultural product when LCA is conducted.

LCA takes into account numerous factors, including emissions from: the use of farm equipment throughout the growing and harvesting process; the processing, packaging; storing, and transporting of agricultural products; the production of electricity to refrigerate products and to heat barns; the methane produced by ruminant animals; and the nitrous oxide released as a result of using nitrogen-based fertilizers.²⁶² Because of the many elements comprising a life cycle analysis, the calculations are necessarily somewhat inexact; however, they give a far better picture of the overall environmental impact of food stuffs than does the simplistic measure of how many miles or kilometers the food has travelled.

Even though transportation is a relatively minor component of a food’s carbon footprint based on a life cycle analysis, transportation has been a consistent, disproportionate focus of many policymakers and businesses. Marks & Spencer has recently signed an agreement with New Zealand meat processor Alliance Group to sell its New Zealand lamb alongside U.K. lamb.²⁶³ Alliance Group has developed a program, called Hoofprint, to measure the carbon footprints of its farms. Apparently, the favorable comparison of the emissions of these farms with those of U.K. farms led Marks & Spencer to enter an arrangement with Alliance Group.²⁶⁴

The Marks & Spencer announcement came on the heels of a study by the Consultative Group on International Agricultural Research indicating, among other findings, that Britons could help the environment by

262. Baddeley et al., *supra* note 53, at 69.

263. Terri Russell, *Alliance Secures Single Deal to UK*, STUFF.CO.NZ (Nov. 2, 2012 10:08 AM), <http://www.stuff.co.nz/business/farming/7897332/Alliance-secures-single-deal-to-UK>.

264. Maria Slade, *Save the Planet: Buy Kiwi Lamb*, STUFF.CO.NZ (Nov. 2, 2012, 08:31 AM), <http://www.stuff.co.nz/dominion-post/business/7897488/Save-the-planet-Buy-Kiwi-lamb>.

purchasing New Zealand lamb instead of domestic lamb because the imported product is produced much more efficiently.²⁶⁵

While most carbon labeling schemes are operated by private organizations and therefore likely fall outside the WTO's oversight,²⁶⁶ there are examples of government-run programs. Recently France initiated the Grenelle 2 Law, which, among other things, included a one-year trial program relating to product carbon footprint labeling.²⁶⁷ In the WTO's TBT Committee, Korea has expressed concern that France's carbon footprint labeling requirement appeared to be mandatory, noting that carbon labeling schemes are generally voluntary.²⁶⁸ Korea also disagreed with France's inclusion of emissions from transportation in the carbon footprint calculation, fearing this would lead French consumers to favor even environmentally unfriendly locally made products over more environmentally-friendly imported products solely because of the difference in distance travelled. Additional concerns were raised concerning proper disclosures under the TBT Agreement and over the possibility such a law could become permanent and mandatory, which would disadvantage imports in the French market.²⁶⁹

The European Union clarified that while an early draft of France's law had provided for the carbon footprint labeling provisions to be mandatory, under the final version, they would remain voluntary, at least for the duration of the pilot program. However, it is possible France will decide to make its program mandatory following its assessment of the trial period.²⁷⁰

In 2007, the U.K.'s Department for Environment, Food and Rural Affairs (DEFRA) announced a collaboration with the Carbon Trust, a Government advisory body, to study how to conduct LCA with the ultimate goal of having retailers place carbon labels on all products.²⁷¹ DEFRA ultimately determined that the science currently available did not support

265. Sonja J. Vermeulen, Bruce M. Campbell & John S.I. Ingram, *Climate Change and Food Systems*, 37 ANN. REV. ENV'T & RESOURCES 195 (2012); *Buy New Zealand Lamb to Save the Planet, Say UN Scientists-Because British Farming Methods Produce Twice as Much Greenhouse Gas*, DAILY MAIL (Oct. 31, 2012, 10:12 AM), <http://www.dailymail.co.uk/news/article-2225772/Go-vegetarian-save-planet-Double-greenhouse-gases-comes-farming-animals-estimated.html>.

266. See Appleton – Private Standards, *supra* note 126, at 143–147. For a discussion of private standards and the SPS Agreement, see Tracey Epps, *Demanding Perfection: Private Food Standards and the SPS Agreement*, in INTERNATIONAL ECONOMIC LAW AND NATIONAL AUTONOMY (Meredith Kolsky Lewis & Susy Frankel eds., 2010).

267. Committee on Technical Barriers to Trade, *Note by the Secretariat, Minutes of the Meeting of 15–16 June, 2011*, 13, G/TBT/M/54 (Sept. 20, 2011).

268. *Id.*

269. *Id.* at 13.

270. *Id.* at 14. See also Baddeley et al., *supra* note 53, at 67 (discussing France's program).

271. Harry Wallop, *Plan for Carbon Footprint on Every Label*, THE TELEGRAPH (May 31, 2007, 12:01 AM), <http://www.telegraph.co.uk/news/uknews/1553092/Plan-for-carbon-footprint-on-every-label.html>.

a plan to develop such a label, particularly given the cost of so doing and the uncertainty as to the level of impact it would have on consumer behavior.²⁷²

The Japanese have also been trialing a carbon footprint program; its Carbon Footprint System has been operating since 2009.²⁷³

B. *Limitations of LCA*

On the one hand, it is a positive development that there seems to be a growing recognition, both in government and in the retail sector, that life cycle analyses provide a more accurate indication of GHG emissions than solely looking at the distance a product has travelled. On the other hand, however, LCA is not a panacea. Conducting LCA is time consuming, expensive, and not susceptible to particularly accurate calculation. One aspect of the inherent inaccuracy is that a carbon footprint label cannot reflect how the product is used after purchase. For example getting potatoes from farm to the shop may have relatively low associated emissions, but if they are then cooked by boiling with the lid off and then mashing, their emissions increase dramatically. Post-sale activities, including transporting the product from store to home, cooking methods, and how the waste is disposed can have a significant impact on a product's true carbon footprint, but these variables will not be accounted for in a carbon footprint label directed at the customer at the point of sale. LCA therefore does not present an entirely satisfying solution—particularly as they are very expensive to conduct. In 2007, U.K. retail giant Tesco announced a plan to calculate the carbon footprint for all 70,000 of its products and to label them accordingly;²⁷⁴ but scrapped the effort in 2012 due to the amount of work involved—estimated at several months per single item.²⁷⁵ Given the challenges even for major businesses to undertake life cycle analyses, it seems inevitable that developing countries would be disadvantaged by widespread use of carbon footprint labeling in their export markets. The WTO Committee on Trade and Environment has identified several such negative impacts for developing countries.²⁷⁶

In addition, measures requiring life cycle analysis may lead to challenges of WTO inconsistency, much like food miles measures. While LCA

272. *Defra Findings on the Effectiveness of Food Labelling to Promote Behaviour Change*, FOOD CLIMATE RESEARCH NETWORK, <http://www.fcrrn.org.uk/research-library/carbon-labelling/food/defra-findings-effectiveness-food-labelling-promote-behaviour-change> (last visited May 15, 2014).

273. Baddeley et al., *supra* note 53, at 67.

274. Julia Finch & John Vidal, *You've Checked the Price and Calorie Count, Now Here's the Carbon Cost*, THE GUARDIAN (Jan. 19, 2007, 4:35 AM), <http://www.guardian.co.uk/business/2007/jan/19/ethicalbusiness.supermarkets>.

275. Adam Vaughan, *Tesco Drops Carbon-label Pledge*, THE GUARDIAN (Jan. 30, 2012, 10:02 AM), <http://www.guardian.co.uk/environment/2012/jan/30/tesco-drops-carbon-labeling>.

276. See Committee on Trade & Environment, *Report (1996) of the Committee on Trade & Environment*, WT/CTE/1 (Nov. 12, 1996); Joshi, *supra* note 126, at 72.

is a far more accurate measure of the environmental impact of a product than measures based on food miles, it is—as noted above—still not able to capture all variables contributing to a product’s carbon footprint. Given how expensive and time-consuming it is to conduct LCA, it would be a significantly more trade restrictive measure than requiring a food miles label, and a panel would therefore likely require evidence of a higher level of contribution of the measure towards its goal.

If a member imposed a measure requiring LCA-based labels, a panel would be likely to find a relevant international standard under Article 2.4 of the TBT Agreement, namely ISO standard 14024, also called Type I Environmental Labelling. The 14024 standard requires third-party certification to ensure compliance with scientifically accepted criteria for measuring environmental friendliness, including the use of life cycle analyses.²⁷⁷ Thus the costs of complying would likely include providing for independent certification of the LCA methodologies used.

In addition to the concerns we have identified with respect to the accuracy and WTO consistency of measures based on food miles and life cycle analyses, such initiatives also call into question issues of fairness for those who would be affected, particularly those from developing countries.

C. *Development Implications and Fundamental Fairness*

There would be significant consequences for Africa if France, Germany, and the United Kingdom (the countries where food miles has gained the most traction) significantly alter their consumption patterns in favour of local foods. A study of the effects of such a shift revealed that the largest percentage welfare losses would be suffered by Sub-Saharan African countries.²⁷⁸ Given that most African countries’ contribution to global GHG emissions is a tiny fraction of that of developed countries,²⁷⁹ the food miles narrative becomes even more problematic.

In setting policies and regulations related to food and carbon emissions, we should be mindful of the significant differences amongst countries in terms of their carbon emissions to date. The industrialized world accomplished its growth and development largely in a time when humans’ effects on the environment were unrecognized. Today however, it is widely accepted that humans are contributing to climate change through our farming, industrial, and other practices. And it is clear that the countries with a lengthy manufacturing and industrialized farming history will have contributed more carbon emissions than countries that remain primarily

277. Examples of labels falling under ISO 14024 include the German Blue Angel and the EU flower symbol. Bonsi, Hammett, & Smith, *supra* note 194, at 410–11.

278. New Zealand would be equally negatively affected. See Ballingall & Winchester, *supra* note 6, at 1201.

279. See, e.g., *African Emissions: African Major Sources of GHG, Emissions Per Capita, and Comparison with Emissions from Other Countries*, GRID ARENDAL, <http://www.grida.no/publications/vg/africa/page/3113.aspx> (last visited May 15, 2014) (showing U.S. per capita GHG emissions of 20 metric tons, with many African countries, including Kenya, with per capita emissions of well under one-half metric ton per capita).

subsistence farming economies. As such, when considering whether to preference green beans from the United Kingdom over green beans from Kenya, we should not just look at the carbon emissions implications for each set of beans. Instead, given the relative contributions of Kenya and the United Kingdom to increased carbon levels in the atmosphere, we should be more favorably inclined towards the Kenyan beans than the U.K. beans.

Edith Brown Weiss posited, nearly thirty years ago, that notions of fairness require our generation to take actions with respect to the environment in the role of stewards or fiduciaries for future generations.²⁸⁰ Intergenerational equity should be taken into account in the context of considering which countries' agricultural carbon emissions should be preferred. Part of the inequity of favoring U.K. beans over Kenyan beans derives from the actions and inactions of the United Kingdom and other industrialized countries in generations past. In this regard, the international trade approach could be harmonized with the international environmental approach by taking into account the principle of common but differentiated responsibility (CBDR). The CBDR concept appears in the United Nations Framework Convention on Climate Change (UNFCCC), and reflects the view that those who have contributed the most to carbon emissions over time should be the ones to shoulder most of the responsibility for addressing climate change.²⁸¹ Industrialized countries have, until recently, been the major carbon emitters.²⁸² These same countries thus should bear more responsibility in addressing the problems relating to climate change, and are in fact have a greater capacity (in terms of finances and expertise) to do so.²⁸³

280. Edith Brown Weiss, *The Planetary Trust: Conservation and Intergenerational Equity*, 11 *ECOLOGY L.Q.* 495 (1984). See also Edith Brown Weiss, *Climate Change, Intergenerational Equity and International Law: An Introductory Note*, 15 *CLIMACTIC CHANGE* 327 (1989).

281. 1992 United Nations Framework Convention on Climate Change (UNFCCC) art. 3, May 9, 1992, 1771 U.N.T.S 107, 31 I.L.M. 849 (entered into force Mar. 21, 1994). Article 3 of the UNFCCC provides, in relevant part, that: "parties should protect the climate system for the benefit of future and present generations of human kind on the basis of equity and in accordance with their common but differentiated responsibility and respective capabilities. Accordingly, developed countries should take the lead in combating climate change and the adverse effects thereof". *Id.* Note this language is not a requirement but rather a hortatory objective.

282. Kelly McManus, *The Principle of 'Common but Differentiated Responsibility' and the UNFCCC*, CLIMATICO (Nov. 2009), http://www.climaticoanalysis.org/wp-content/uploads/2009/12/kmcmnus_common-responsibilities.pdf.

283. *Id.* Article 3 of the UNFCCC additionally includes the concept of respective capabilities. This concept is sometimes bundled with common but differentiated responsibilities and discussed as a single principle. See, e.g., Joanne Scott & Lavanya Rajamani, *EU Climate Change Unilateralism*, 23 *EUR. J. INT'L L.* 469, 477 (2012). Our point here is primarily focused on common but differentiated responsibilities, and we therefore do not bundle the two together.

D. *Alternative Approaches*

If food miles are inaccurate and misleading, and life cycle analyses expensive and impractical, what should policymakers and individuals be doing if they wish to use food as a reference point for lowering greenhouse gas emissions? For purposes of this discussion, our comments are directed at developed countries as it is primarily developed countries that have been promoting the food miles narrative. While we readily acknowledge our limited knowledge with respect to the science of addressing climate change, available data suggests to us policy choices preferable to measures based on food miles or LCA.

As a preliminary matter, given the significant levels of GHG emissions emanating from developed countries relative to most developing country agricultural exporters, it would be preferable as an equitable matter for measures to focus on changes in domestic behaviors that result in significant GHG emissions.

For example, one of the major contributions to GHG emissions resulting from the food sector is the methane released by ruminant animals. Accordingly, it has been estimated that reducing meat consumption would have a significant impact on GHG emissions.²⁸⁴ Lowering consumption of dairy products would also make a meaningful difference, for the same reason.²⁸⁵

In addition, one of the reasons consuming local products can result in higher GHG emissions, when compared with importing the like products, relates to the energy used in storage. When U.K. customers purchase apples in the spring that were grown in the U.K. the previous fall, those apples have been in cold storage for several months, requiring a significant use of energy. In contrast, buying apples from the Southern Hemisphere in the U.K. spring would mean fresher apples and far less, if any, cold storage. Thus policymakers should take into account the fact that consuming local foods that are not fresh may be a poor environmental choice when compared to importing those same foods from countries where they are in season. Similarly, any environmental benefit of producing a food locally may be lost if that food can only be produced in-country if it is grown in a temperature-controlled greenhouse.

Another factor that contributes significantly to the carbon impact of an agricultural product is how it is transported from seller to home. The per unit GHG emissions for a product bought from the farm but driven home in a passenger car will likely be higher than those for a product delivered by a home grocery service (such as Peapod) bringing the food

284. *Meat Eater's Guide to Climate Change and Health, at a Glance*, ENVIRONMENTAL WORKING GROUP, http://static.ewg.org/reports/2011/meateaters/pdf/ewg_meat_eaters_guide_to_health_and_climate_2011.pdf (last visited May 15, 2014).

285. Christopher L. Weber & H. Scott Matthews, *Food-Miles and the Relative Climate Impacts of Food Choices in the United States*, 42 ENVTL. SCI. & TECH. 3508, 3508 (2008) (discussing the environmental aspects of various foods).

from a central location. Accordingly, the positive environmental impact of farmers' markets could be significantly enhanced by facilitating the location of such markets in high-density population areas and areas convenient to public transportation.

It is also important to recognize that a comprehensive "eat local" approach could never succeed globally because of the many regions of the world that cannot produce a varied enough diet based on their factor endowments.²⁸⁶ And such an approach would also be expensive. We know from the principle of comparative advantage that countries will be better off if they produce what they are efficient at producing. Policies that would see each country—or even each region within each country—farming all of their own requirements for dairy, animal protein, grains, fruits, vegetables, and other food needs would be incredibly inefficient. It would also lead to diminished welfare as food choices would be far more limited if communities limited themselves to consuming what was locally produced. Most climates are not conducive to producing a comprehensive food basket, and any locale with true seasons will only be able to grow fruits and vegetables for a portion of the year. Thus, international trade principles, as well as the reality of countries' factor endowments, demonstrate that even if a "locavore" approach were more environmentally friendly, it would not be sustainable on a grand scale.

CONCLUSION

Governments, businesses, NGOs, and individuals have utilized the food miles concept to convince consumers that buying locally sourced foods is better for the environment than purchasing food that has been transported from further afield. While consumers may have good reasons to buy local foods, including a desire to support farmers in the community or region; a preference for fresher food; and a commitment to local farming practices such as organic farming, consumers should not be fooled into believing that one of the benefits of "locavore" behavior is reducing GHG emissions. Food miles schemes in use at present have predominantly been promulgated by nongovernmental entities, but there have also been measures under consideration by governments. A food miles measure with sufficient government involvement will be vulnerable to challenge under multiple WTO rules.

Although there has been a growing recognition that food miles are not an accurate measure of environmental harm, the food miles rhetoric continues. At the same time, governments and suppliers are paying more attention to the possibility of conducting life cycle analyses, which would take into account a much wider array of metrics than just transportation in calculating a product's carbon footprint. However, life cycle analyses are not a panacea. Although a better measure than food miles, life cycle analyses are expensive and time consuming to undertake, and generally cannot

286. James E. McWilliams, Op-Ed, *Food That Travels Well*, N.Y. TIMES (Aug. 6, 2007), <http://www.nytimes.com/2007/08/06/opinion/06mcwilliams.html>.

account for significant contributors to GHG emissions such as the mode of transport used to get the product from market to home, and the cooking and disposal methods used by the consumer.

Mandating expensive life cycle analyses also may preclude poorer producers from staying in the export market. In addition, to the extent governments and individuals seek to be socially responsible, they should factor into their decisions the fact that many poor agricultural exporting countries do not contribute in any significant way to global greenhouse gas emissions. We therefore need to ask ourselves, *even if* domestic farming resulted in somewhat lower GHG emissions than importing fresh produce from, *e.g.*, Africa, is it sufficient to measure only which supply chain results in the lowest level of emissions? Or should we also take into account the overall GHG contribution of the countries involved? If Kenya produces only a tiny fraction of the world's emissions, does it make sense to prefer that tiny fraction drops to an even more *de minimis* level, or is it better to impose a degree of restraint on producers in countries that have high levels of emissions?²⁸⁷

For governments and other actors in developed countries wishing to reduce the carbon footprint associated with food, a more effective and more development-friendly approach would be to target domestic processes and habits that are resulting in elevated emissions, rather than focusing on labeling initiatives that will have little, if any, positive impact on the climate while causing harm to vulnerable participants in the international marketplace.

287. Cf. Scott & Rajamani, *supra* note 283, at 486 (arguing that the EU's decision to include aviation emissions in its emissions trading scheme did not include sufficient consideration of, *inter alia*, the development impact of so doing, particularly the impact on African horticultural interests).