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The power of eco-labels: Communicating climate change using carbon footprint labels consistent with international trade regimes under the WTO

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"the debate over environmental labels reflects the truism that information is power"
– Jim Salzman

Abstract. Information is power. At the intersection of culture, science, mass communication, and law, this paper argues that information provided by a transparent and internationally harmonized eco-label scheme serves to enhance understanding of public policy choices for mitigating climate change. A product carbon footprint (PCF) label communicates climate change information to citizen consumers and can indirectly reduce GHG emissions. PCF labels are effective response measures that countries are taking to address global warming and are not obstacles to international trade. The international community should embrace domestic PCF labeling schemes, whether voluntary or mandatory. The PCF label and associated standards, which countries may use as domestic trade measures in response to the challenges of climate change, should be consistent with the rules and regimes of WTO agreements to ensure that these schemes support fair and free international trade. At some time in the future, the UNFCCC parties may reach agreement on a domestic response, including trade measures, to reduce GHG emissions, and PCF labeling schemes may be adapted as needed to assist developing countries' participation. The WTO should support environmental trade measures that fight global warming, such as a domestic PCF label and associated standards.

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I. Introduction

A product carbon footprint label[1] can be an effective means of mass communication for consumers choosing environmentally friendly products. The label relies on the power of information in the marketplace to reduce GHG emissions associated with households. The international community should adopt the PCF label and harmonize its standards because the label is an effective way to mitigate and adapt to climate change, and countries already use PCF labels in voluntary and mandatory schemes. However, the PCF label impacts international trade and may be subject to challenge under the WTO[2] through its Dispute Settlement Understanding (DSU) discipline.[3] A challenger could contend that such labeling schemes are protectionist.[4] Yet a fair, transparent, and effective labeling scheme with harmonized standards should withstand such claims.

Multilateral environmental agreements on GHGs that include provisions for PCF labels as mitigation measures are unlikely in the near term.[5] Some scholars contend that the DSU trade discipline, which resolves claims of unfair trade and focuses on economics, may impede critical environmental matters underlying a dispute.[6] However, PCF labels and standard that are developed to be consistent with WTO law will be good for trade and the environment. The PCF label and standards need to be based on international trade methods because they address a global concern (the climate), are found in the international marketplace, and must be fairly applied to domestic and imported like products. Established disciplines of the WTO law and policy that protect free and fair international trade can also be useful, beneficial, and supportive of global environmental concerns.[7] When PCF labels and standards are consistent with WTO law and

[1] A "carbon footprint" has been described as the estimated total amount of greenhouse gas emissions that occur as a result of the manufacture, distribution, transport, use, and sale of a product as measured in CO_2 equivalent under IPCC assessments. See proposed, but not passed, *Carbon Footprint Labeling Act of 2008*, CA Legislator, Regular Session 2007-08, AB No. 2538, Section 44580(b)(3)AB No. 2538 [hereinafter *California proposed PCF Label Act*]. Available at <http://info.sen.ca.gov/pub/07-08/bill/asm/ab_2501-2550/ab_2538_bill_20080222_introduced.pdf>. See also, Alexander Winslow, *California Carbon Label Bill Left Face Down in the Dark*, Climate Change Update blogspot.com, 8 November 2009, <http://aw-climatechange.blogspot.com/2009/11/california-carbon-label-bill-quietly.html> [hereinafter *California Carbon Label Bill Left*].

[2] World Trade Organization Agreement. The WTO was formed in 1994 after many rounds of GATT negotiations. J.H. Jackson, W.J. Davey, and Alan O. Sykes, Jr., 2002 Documents Supplement to Legal Problems of International Economic Relations 3 (4th ed. 2002) [hereinafter *Jackson Supplement* 2002].

[3] Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, 15 April 1994, Legal Instruments – Results of the Uruguay Round vol. 1 (1994), 33 ILM 1125 (1994), Annex 2, Understanding on Rules and Procedures Governing the Settlement of Disputes [hereinafter DSU].

[4] *Following the Footprints*, The Economist.com, 2 June 2011, <http://www.economist.com/node/18750670> [hereinafter *Following the Footprints*]. Quoting Pankaj Bhatia, director of the GHG Protocol, the Economist reports that "The marketplace is asking for one standard—not different ways in different countries. Otherwise, it becomes a trade barrier".

[5] Joey Peters, *Could Carbon Labeling Combat Climate Change*, Scientific American (9 May 2011) [hereinafter *Peters*] <http://www.scientificamerican.com/article.cfm?id=could-carbon-labeling-combat-climate-change>. See also Michael P. Vandenbergh, Thomas Dietz, and Paul Stern, *Time to Try Carbon Labelling*, Nature Climate Change (April 2011), at 4, <www.nature.com/natureclimatechange> [hereinafter *Vandenberg*].

[6] Douglas Irwin, Free Trade under Fire, 243 (2nd ed., 2005) [hereinafter *Free Trade under Fire*].

[7] Jim Salzman, *Product and Raw Material Eco-Labeling: The Limits for a Transatlantic Approach*, at 28 (Berkeley Roundtable on the International Economy (BRIE), Working Paper No. 117, 1998)

policy, national governments developing such labeling regimes as trade measures with environmental objectives will do so with transparency and non-discriminatory effects. Although it may be "easy to hide protectionism behind ... environmental concerns", unfair trade protectionism does not lurk behind a PCF label.[8]

The environmentally beneficial purpose of a PCF label and its capacity to enhance mass communication about climate change are examined in Part II of this paper. Part III describes how WTO law applies, and looks at PCF labels in the United Kingdom and California; and Part IV describes how the United States and other developed countries can design a carbon footprint labeling scheme to meet WTO requirements. In the conclusion I acknowledge the tension between international environmental issues and the WTO. Yet this simple environmental trade measure, the PCF label, demonstrates a potential for coherence.[9] The PCF labeling scheme that is acceptable under environmental protection and international trade regimes provides an opportunity for the WTO to play an important role in the fight against global warming.

II. The Case for a Carbon Footprint Label

The case for a PCF labeling scheme begins by recognizing that the label is a trade measure countries may use on products to show the estimated total amount of GHG emissions that occur as a result of the manufacture, distribution, and sale of a product. The label and its associated standards translate sustainable environmental norms into practical measures.[10] Purchasing products that meet a PCF label and standards is a practical means of assisting countries, communities, companies, and individuals in achieving sustainable development and carbon neutrality.[11]

1. PCF Labeling Scheme can be Effective at Reducing GHGs

A PCF labeling scheme influences consumer choice and can reduce GHG emissions *provided* consumers believe the labeling scheme is an effective means to reduce GHG emissions associated with their purchases. Citizen consumers can be influenced by product labeling schemes. For

<http://brie.berkeley.edu/publications/WP117.pdf> [hereinafter *Salzman*]. Prof. Salzman concludes that the WTO disciplines will not be brought to bear on environmental labels absent a challenge before the WTO Dispute Panel. He suggests hegemonic coercion among the major world economic powers may resolve international debate over eco-labeling in the "trilateral markets". Ibid. at 4 and 28.

[8] *Free Trade under Fire*, supra note 5, at 202.

[9] *Salzman*, supra note 7, at 3. Prof. Salzman reminds us that, "As with most simple ideas, however, putting environmental labeling into practice has proven challenging and led to political involvement at the international level."

[10] Mar Campins Eritja, The European Community Eco-labelling Scheme, Reflections on 30 Years of EU Environmental Law: A High Level of Protection?, 113 (Richard Macrory, ed., Europa Law Publishing 2006) [hereinafter *30 Years of EU Env'l Law*].

[11] The UK Department of Energy and Climate Change published a definition of carbon neutrality in October 2009: 'Carbon neutral means that – through a transparent process of calculating emissions, reducing those emissions and offsetting residual emissions – net carbon emissions equal zero'. <http://www.decc.gov.uk/en/content/cms/emissions/neutrality/neutrality.aspx>.

example, the successful US EPA's Energy Star label attracts consumers by informing them about energy savings.[12] A PCF can inform consumers about the potential for various products to reduce GHG emissions associated with household consumption of goods. For example in the United States, households account for an estimated 15 tons of CO_2 eq. per year, or about one-third of total household emissions.[13] Studies in California have shown that a PCF label is a potentially effective method of reducing GHG emissions for certain household products and services; for example, water heaters, refrigerators, beef, personal computers, restaurants, flat-panel televisions, and milk.[14] These GHG reductions are not insignificant—the study estimated 29 Mt CO_2 eq. (from 2011 to 2015) across the life-cycle of the 22 products analysed.[15] However, PCF labeling schemes are subject to some uncertainties in measuring GHG reductions. Although product category rules for life-cycle assessments are being developed, they need to be harmonized across international borders.[16] It is beyond the scope of this paper to describe the methods for measuring GHG reductions associated with consumer products.

A PCF labeling scheme could harness the power of the marketplace to create incentives for manufacturers to innovate and compete to reduce the carbon footprint of their products. It could be an effective measure to "fill the climate-policy gap by influencing the behavior of consumers and corporate supply chains".[17] Many climate change experts agree that it could take years before any type of international system will be fully developed to regulate GHGs.[18] In the meantime,

[12] Arpad Horvath, Eric Masanet, H. Scott Matthews, and Derrick Carlson, *Retail Climate Change Mitigation: Life-Cycle Emission and Energy Efficiency Labels and Standards*, at ix, University of California, Berkeley (2011) [hereinafter *Horvath*] ("When exploring how natural market uptake might affect the potential savings, the study found that even if consumers reacted with the same levels of uptake as products labeled with the ENERGY STAR—which is arguably the greatest labeling success story in the United States—that only roughly 40% of the technical potential might be realized"). The EU and the US entered into an "Energy Star Agreement", attempting to standardize the use of the Energy Star label. However, in 2002, that agreement was annulled by the European Court of Justice. The exact contours of this dispute are beyond the scope of this paper, except that the reason the agreement was annulled relates to the predominance of trade over environmental concerns. The Court looked to the TBT Agreement for guidance in its analysis. See *Commission v. Council*, Case C-281/01; Celex No. 601J0281 (E.C.J., 5th Ch. 12 December 2002).

[13] *Horvath* 2011, supra note 12, at 1-2 (annual GHG emissions attributable to the typical US household are roughly one-third for private transportation, one-third for residential energy use, and the remaining one-third for production/disposal of goods and services; also, because the vast majority of residential energy use/GHG emissions is due to purchased appliances (water heaters, refrigerators, furnaces, etc.), retail purchases might be considered as much as two-thirds of US household GHG emissions). See also *California proposed PCF Label Act*, supra note 1 (which refers to estimates on US household's annual GHG emissions at 15 tons per year. Proposed Assembly Bill No. 19, Section 44571 (d)).

[14] *Horvath*, supra note 12, Executive Summary (results of the three-year California study found that it is potentially effective to reduce GHG emissions in the state for a number of products and services using the PCF and associated standards if PCF or standards are successful in driving the market to best practices for low-carbon and energy-efficient life cycles).

[15] *Horvath*, supra note 12, at ix-x (however, the researchers noted that "work is needed to address some of the key limitations ... in this report").

[16] *Following the Footprints*, supra note 4 ("product category" rules are needed to ensure comparability between carbon labels on similar products. Those product-category rules, in turn, must be harmonized between countries to ensure compatibility between carbon-labeling schemes, which are growing in number and diversity).

[17] *Vandenbergh*, supra note 6, at 4.

[18] *Peters*, supra note 6.

the use of a market system based on an internationally recognized PCF labeling scheme could affect behaviour and reduce some emissions while the international community develops binding international agreements to mitigate GHG emissions.

The PCF label may be only one small action to combat climate change, but it can be particularly effective at reducing GHG emissions.[19] Also, studies show high consumer demand for products with valid, meaningful PCF labeling information. For example, 72 per cent of UK supermarket shoppers favour the PCF.[20] Legal scholars suggest that no single action will solve the global warming problem: mitigation of GHG requires a host of small actions, including carbon labels, aimed at emissions wherever they occur.[21]

2. The WTO is the Best Available Forum to Develop and Implement a PCF Labeling Scheme

The parties to the UNFCCC have no consensus on where and whether to address trade at all and, consequently, have no agreement on the use of PCF label.[22] The label is considered a response measure that countries "put into place to address climate change that can have an impact on social and economic development of other countries".[23] Parties may eventually reach multilateral agreements on the use of response measures and negotiate language on trade, but their differences on matters of trade and climate change are far apart.[24] Moreover, the parties have not reached an effective agreement to reduce GHG emissions, which is one of their primary objectives.[25]

The UNFCCC discussions on response measures include preventing carbon leakage, which is an adverse effect due to climate mitigation in one country which results in the polluting activity

[19] *Horvath*, supra note 12.

[20] European Commission, DG ENV, *News Alert*, Issue 276 (8 March 2012) ("The majority of respondents to a UK survey would like to see labels explaining the carbon footprint of the food they buy. 72% of the supermarket shoppers questioned were in favour of carbon labels on food. The survey also found that 42% had changed their shopping habits in the last 10 years in response to environmental concerns... However, the same survey also found that 89% of respondents thought existing carbon footprint information was hard to understand, and that comparing carbon footprints between products was difficult and confusing").

[21] Shane Baddeley, Peter Cheng, and Robert Wolfe, *Trade Policy Implications of Carbon Labels on Food*, 13(1) Estey Centre Journal of International Law and Trade Policy (2012), at 59-93.

[22] Manuel A. J. Teehankee, Ingrid Jegou, and Rafael Jacques Rodrigues, *Multilateral Negotiations at the Intersection of Trade and Climate Change An overview of Developing Countries' Priorities in UNCSD, UNFCCC and WTO Processes*, at 2, 32 and 47 (ICTSD Programme on Global Economic Policy and Institutions, May 2012) [hereinafter *Teehankee*]. <http://re.indiaenvironmentportal.org.in/files/file/multilateral-negotiations-at-the-intersection-of-trade-and-climate-change.pdf>.

[23] *Teehankee*, supra note 22, at 21.

[24] Ibid. at xiii- ix and 21 ("it is necessary for the global community to address the trade and climate change nexus ... including developing countries, which may have their trade opportunities hampered by measures to address climate change ... and it is important to recognize that different developing countries have very different needs and interests in the fields of trade and climate change ... positions have been so far apart that no agreement has been reached").

[25] See *UNFCCC Climate Change Negotiations*, Red Cross/Red Crescent Climate Centre, available at <http://www.climatecentre.org/site/unfccc-climate-change-negotiations>.

moving to another country without climate-mitigation controls.[26] Legal scholars suggest that countries may undertake response measures, such as border trade adjustments to reduce the risk posed by carbon leakage *provided* the domestic country can establish a "means-and-ends relationship between the [trade measure] and the legitimate policy of emissions-reductions".[27] Furthermore, because carbon leakage is related to international trade, it is a difficult issue for the UNFCCC parties to resolve due to their focus on encouraging GHG emission reductions. Although the Convention provides that the parties should not establish "trade measures that intentionally or otherwise operate as restrictions on international trade",[28] it may take a long time for the UNFCCC to address PCF labels,[29] which only indirectly reduce GHG emissions.

The WTO principles and disciplines are useful not only for their primary purposes, energizing and liberalizing international trade in goods and services, but also because the WTO is committed to integrating human health and environmental protection with its trade purposes.[30] Sustainable development is inter twined with international trade and economic development, and is a component of the WTO Agreement.[31] For example, the preamble supports "the optimal use of the world's resources in accordance with the objective of sustainable development".[32]

The WTO is available to support PCF labels and standards for GHG-reduction purposes with its disciplines that enhance fair trade, non-discrimination among like products, and anti-protectionist principles. It is unreasonable to wait for the UNFCCC parties to develop multilateral agreements on the use of PCF labels when the labeling scheme in any case needs WTO administration because it is already in use and may have an impact on global trade.[33] Eventually, the UNFCCC may reach an agreement on response measures, such as PCF labels and preventing carbon leakage.

[26] Lindsay Hogan and Sally Thorpe, *Issues in Food Miles and Carbon Labelling*, at 23, ABARE Research Report 09.18, Commonwealth of Australia (December 2009), <http://adl.brs.gov.au/data/warehouse/pe_abarebrs99001677/foodmiles.pdf>.

[27] Navraj Singh Ghaleigh and David Rossati, *The spectre of carbon border-adjustment measures*, 2 Climate Law 63 at 83 (2011) [hereinafter *Ghaleigh*]. Prof. Ghaleigh notes that "leakage is a risk in certain industrial subsectors, most notably cement, ferrous metals, nitrogen fertilizers, and pulp and paper"; ibid. at 76.

[28] *Ghaleigh*, supra note 27, at 69.

[29] *Teehankee*, supra note 22, at 3.

[30] A. Green, *Climate Change, Regulatory Policy and the WTO, How Constraining are Trade Rules?* 8 J. Int'l Econ. L. 143 (March 2005) [hereinafter *Green* 2005] ("Existing WTO rules provide members with some scope to take action on climate change. However, they do constrain domestic regulatory policy, and the debate about future institutional changes will be central to how effectively global environmental issues such as climate change will be addressed"). For more in-depth discussion on the interconnection between environmental challenges and the WTO, see A. Green and T. Epps, *The WTO, Science, and the Environment: Moving Towards Consistency,* 10 J. Int'l Econ. L. 285 (June 2007).

[31] *Jackson Supplement* 2002, supra note 2, at 3. The preamble of the WTO agreement recognizes sustainable development while still allowing "optimal use of the world's resources."

[32] *Teehankee*, supra note 22, at 33 note 135, citing to the *WTO, Marrakesh Agreement Establishing the World Trade Organization* (1994).

[33] *Teehankee*, supra note 22, at 37 (there may not be a clear divide between developed- and developing-country concerns about PCF labeling discussions within the WTO Committee on Trade and the Environment, but there are preferences; i.e. developing countries and the US are cautious about discussing the PCF with the committee, while the EU is more in favour of such discussions).

Developing countries prefer that such measures be addressed under the UNFCCC forum.[34] However, if binding MEAs ever address PCF labels in the future, such agreements may be effectuated consistent with the WTO forum and disciplines and as described in Part III below. Such an MEA could include a mechanism to help developing countries that may not have funds to establish a domestic labeling scheme. WTO rules can be interpreted and "combined with reference to the ... UNFCCC", to justify the use of a PCF labeling scheme as a legal response measure.[35]

The balance of this paper is about WTO compliance issues for a PCF label. Parts III and IV illustrate that while serious concerns about WTO checks on MEAs and domestic environmental policies remain, they diminish when environmental policymakers carefully craft climate-change trade measures recognizing global economic objectives (anti-protectionism) and when the WTO decision-makers commit to sustainable development and refuse to allow sheer economic interests to dominate. When specialists respect each other's disciplines and integrate their dependencies, as in the case of economics aligned with ecology, each will be more successful than acting alone.[36] The application of WTO law to the PCF label exemplifies this integration.

III. Applicability of WTO Law to the PCF Label

States around the world are creating both voluntary and mandatory domestic PCF labeling schemes. Domestic response measures, programs, and laws to reduce GHG emissions face two problems: first, they do not have the force of law to unilaterally bind other countries, yet all countries contribute to global GHG emissions;[37] second, WTO law and policy may constrain domestic climate-change measures.[38] On the other hand, the WTO provides a mechanism to direct

[34] *Teehankee*, supra note 22, at 32 ("it is important that these concerns [leakage] be addressed, preferably within the context of the UNFCCC").

[35] *Ghaleigh*, supra note 27, at 84.

[36] Andrew Zolli and Ann M. Healy, Resilience: Why Things Bounce Back (2012) (a diversity of sources improves systemic resilience; clustered diversity ensures resilience of innovation). In addition, interdisciplinary solutions are an example of "bio-mimicry", where nature and humans recognize we are complex and interconnected. See also, The BioMimicry Institute (biomimicry is a discipline that studies nature's best ideas and then imitates these designs and processes to solve human problems) <http://biomimicryinstitute.org/about-us/what-is-biomimicry.html>.

[37] Climate Change, Legislative Design White Paper: Competitiveness Concerns, Engaging Developing Countries, US Senate Committee on Commerce and Energy Staff (January 2003) at 2 [hereinafter *White Paper*]. The global problem of climate change is particularly vexing for international trade law because solutions require cooperation between, and immediate actions by, developed and developing countries. The US, EU-25, China, Russia, India, and Japan accounted for more than 60% of the global GHG emissions in 2000. The precepts of many international arrangements anticipate more time for compliance and less rigorous application of regulatory controls for developing nations compared to developed countries. In contrast, the GHG-emission problem is time-critical. Moreover, the problem/solution must consider all peoples and conditions globally. Partial fixes and unilateral actions, rather than MEAs, sometimes create more problems. E.g. a food crisis in poor countries can be caused by demand for biofuels in rich countries: M. Lacey, *Across Globe, Empty Bellies Bring Rising Anger*, New York Times, 18 April 2008, <http://www.nytimes.com/2008/04/18/world/americas/18food.html?pagewanted=2&th&emc=th>.

[38] *Green*, supra note 30, at 143 (the WTO law may constrain domestic regulatory climate-change measures).

its members in matters of domestic regulatory policy, which ensures international acceptance.[39] Climate-change-response measures need to have extra-territorial impacts to be effective.[40] For example, the PCF label and standards need to apply even-handedly to certify domestic or imported products.

1. Domestic PCF Labels and Standards

PCF labeling schemes have been adopted in the European Union, including the United Kingdom and France.[41] In Sweden, the PCF label is being integrated into food labels showing GHG emissions and nutritional information.[42] In Germany, Blue Angel is the oldest and most successful EU eco-label and is beginning to incorporate GHG emission information into product certifications.[43] However, development of PCF labeling and standards has come under close examination by the German environment ministry, which reported in 2009, that determining GHG emissions of products is complex, especially for food.[44] The French government is experimenting with a comprehensive scheme that involves testing PCF labeling issues, for example calculation methodologies, data, communication, consumer reaction, and costs.[45] PCF labels are also used in Japan, Canada, and South Korea.[46] In the United States, California proposed PCF labeling legislation, but it has not yet become state law.[47] It may adopt the scheme in the future.[48]

A. PCF Label Schemes in the United Kingdom

One of the most workable schemes has been developed by the UK's Carbon Trust, which established a voluntary PCF labeling scheme for domestic markets in 2008.[49] One of the United Kingdom's largest retail supermarkets, Tesco, experimented with the label for years, labeling

[39] E. Trujillo, *Mission Possible: Reciprocal Deference between Domestic Regulatory Structures and the WTO*, 40 Cornell Int'l L.J. 201 (2007).

[40] *Green*, supra note 30, at 144-45.

[41] *Following the Footprints*, supra note 4.

[42] Jason J. Czarnezki, *The Future of Food Eco-Labeling: Organic, Carbon Footprint, and Environmental Life-Cycle Analysis*, at 23-30 (16 February 2011) [hereinafter *Czarneski*], Vermont Law School Research Paper No. 10-44; 30(3) Stanford Environmental Law Journal (2011).

[43] Ibid. at 41; see also *German Blue Angel*, PCF World Forum, <http://www.pcf-world-forum.org/initiatives/country-governmental-initiatives/germany/> (Blue Angel has certified over 71,000 products and plans include extending the product range of the Blue Angel up to 100 product categories with climate relevance by 2012).

[44] Rainer Griesshammer and Christian Hochfeld, *Product Carbon Footprint Memorandum*, at 29-32, German Env'l Ministry (Berlin, December 2009).

[45] *Environmental Product Declaration, France*, PCF World Forum, <http://www.pcf-world-forum.org/initiatives/country-governmental-initiatives/france/>.

[46] *Following the Footprints*, supra note 4.

[47] *California proposed PCF Label Act*, supra note 1.

[48] See *California Carbon Label Bill Left,* supra note 1, and *Horvath* supra note 12, describing California studies on PCF.

[49] Labels Reveal Goods' Carbon Cost, BBC News on-line, 16 March 2007, <http://news.bbc.co.uk/2/hi/science/nature/6456047.stm>.

over 500 products.[50] However, Tesco decided to re-evaluate the label in early 2012,[51] because researchers and retailers were questioning its efficacy; for example: Is the label influencing consumer choice? Is carbon reduction alone enough information for consumers? Is a more inclusive label better, and should it include social impacts? Will a more practical, less expensive method of certification be developed soon (e.g. product-category rules and internationally harmonized standards)?[52]

The United Kingdom awards the PCF label based on the British Standards Institution (BSI). It is called the Publically Available Standard (PAS) 2050.[53] In turn, the PAS 2050 has been used to develop the newest standard, the GHG Protocol Product Standard released in 2011, under the auspices of the World Resources Institute and the World Business Council on Sustainable Development.[54] The PAS 2050 and the GHG Protocol Product Standards are the foundation for a new harmonized, international standard to be established by the International Standards Organisation, namely ISO 14067,[55] discussed further in Part IV.

B. California

California, the world's twelfth largest GHG emitter, proposed a voluntary program for a Carbon Footprint Labeling Act in March 2008.[56] Since that time, the state has been working with the Carbon Trust and "A Carbon Label for California" to establish standards and parameters for such a proposed PCF label.[57] Under the proposal, domestic PCF labels could be used on a number of products—food, clothing, etc.[58] Although the law was not passed, the state continues to study PCF labeling schemes. In 2011, the University of California, Berkeley, completed an in-depth three-year study that concluded that PCF labels may be effective at reducing GHG emissions within the state.[59]

[50] *Following the Footprints*, supra note 4.

[51] Bethany Hubbard, *Is there a future for carbon footprint labelling in the UK?* The Ecologist.org (3 February 2012), <http://www.theecologist.org/News/news_analysis/1231410/is_there_a_future_for_carbon_footprint_labelling_in_the_uk.html>.

[52] Ibid.

[53] *The Guide to PAS 2050 : 2011, How to carbon footprint your products, identify hotspots and reduce emissions in your supply chain*, British Standards Institution, London (2011).

[54] The Carbon Trust Press Release, *Global Carbon Footprinting Catalysed by Launch of New International Standard Carbon Trust, broadens product carbon footprint certification services: meeting demand for international verification – including new WRI and WBCSD standard*, London (4 October 2011), <http://www.carbontrustcertification.com>.

[55] *Following the Footprints*, supra note 4.

[56] See California Office of the Governor, <http://gov.ca.gov/news.php?id=4111>. See also "A Carbon Label for California", <http://www.carbonlabelca.org/9.html> [hereinafter *A Carbon Label for California*].

[57] For example, the proposed law stated that manufactures would "determine the carbon footprint of the product by applying the criteria and standards developed by the state board, and to include that information on the product, product packaging, and product advertising, consistent with the labeling standards developed by the board"; <http://www.carbonlabelca.org/9.html>.

[58] "How it works" describes types of products could be labeled, food, vehicles, appliances, etc. See *A Carbon Label for California*, supra note 56.

[59] *Horvath*, supra note 12.

In addition, California initiated a process for using PCF labels on vehicles. Now, the US EPA and the US Department of Transportation are implementing a new mandatory GHG-labeling rule for all vehicles sold in the United States beginning in model year 2013.[60] The vehicle label is not based on life-cycle analysis. Instead, it is based on the GHG emissions during use, because this is the most significant aspect of GHG emissions for vehicles.

2. Applicability of WTO Law and Policy to Domestic PCF Labeling Schemes

Developed countries and environmentally progressive US states are likely to embrace PCF label schemes similar to the UK program or California proposal. Jason Czarnezki suggests that US states should experiment with eco-labels that incorporate GHG emissions, particularly for food; and that they may be most successful in places where people have high environmental awareness, such as Oregon or Vermont.[61] Eventually, some states or countries will make these schemes mandatory, as described above in the case of US vehicle labels.

Developing countries are not enthusiastic about such labels and may challenge the scheme as a restriction on free trade.[62] Foreign competitors may not want to spend time and money on a special label for products exported to California, EU countries, and others that may adopt the label. Developing countries may implicate WTO disciplines to evaluate the fairness of PCF labeling schemes. For example, Article III of the GATT as incorporated into the WTO agreement requires that all members provide no less favourable treatment for imports than like products in the domestic markets.[63] Developing countries could allege that the labeling scheme is a discriminatory practice among WTO members, that is, the labeled domestic product receives more favourable treatment in the domestic market. The "no less favourable treatment" principle is commonly known as the "most favoured nation" or "MFN" principle.

This paper contends that a PCF label does not violate the MFN principle. However, even if it is violated, the scheme is a permissible distinction between like products under WTO

[60] *Fuel Economy and Environment Labels*, US EPA, <http://www.epa.gov/otaq/carlabel/420f11017.htm>.

[61] *Czarnezki*, supra note 42, at 41-42 ("Given the success of eco-labeling in Germany and Scandinavia, one concern about any state-sponsored eco-label in the United States is whether it could only achieve a degree of success in a geographic location with a relatively high environmental consciousness among its population. That said, this may prove beneficial if the state sponsored environmental life-cycle eco-label is developed by a state like Vermont or Oregon that has high ecological awareness and a national reputation for environmentalism").

[62] *Teehankee*, supra note 22, at 37. Developing countries are less likely to afford and have necessary technical capabilities to implement regulatory programs that seek to reduce GHG emissions. Domestic GHG legislation could cause carbon leakage, e.g. cause some domestic producers to relocate to developing countries that have no GHG controls. Thus, the domestic legislation could have the perverse effect of causing more GHG emissions. *White Paper*, supra note 37, at 1 and 7, fn. 19. Hence, climate change measures must be crafted very carefully.

[63] Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, 15 April 1994, Legal Instruments – Results of the Uruguay Round vol. 1 (1994), 33 ILM 1125 (1994), Annex 1A, General Agreement on Tariffs and Trade, 1994. Relevant text of Article III is set forth here: "*National Treatment on Internal Taxation and Regulation* ... 4. The products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale".

exceptions that protect human health and the environment. These exceptions are discussed further below. They require that trade measures must *not* be "arbitrary or unjustifiable discrimination between countries where the same conditions prevail or a disguised restriction on international trade".[64] Challenges to a PCF labeling scheme as violating MFN or being an impermissible distinction would be reviewed without exception under the WTO's DSU.[65]

A. The DSU Challenge

The DSU is one of the most significant and successful worldwide dispute settlement mechanisms for resolving barriers to fair trade.[66] WTO members typically resolve their disputes during initial consultations.[67] Although disputes over environmental issues may not be a routine subject matter,[68] important environmental issues have proceeded through the entire DSU mechanism, including initial panel decisions, appeals to the Appellate Body (AB), subsequent implementation, and remedy efforts by the members.[69] AB decisions do not have *stare decisis* effect, but they are instructive,[70] and consistency is expected, i.e. that similar matters will be handled similarly.[71] Also, because panels and the AB may accept amicus briefs from interested non-parties such as environmental organizations, significant environmental expertise is available to the DSU decision makers.[72]

[64] GATT, Art. XX. The chapeau of Article XX is set forth here: "*General Exceptions.* Subject to the requirement that such 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, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any Member of measures".

[65] Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, 15 April 1994, Legal Instruments – Results of the Uruguay Round vol. 1 (1994), 33 ILM 1125 (1994), Annex 2, Understanding on Rules and Procedures Governing the Settlement of Disputes [hereinafter DSU].

[66] John J. Emslie, *Labeling Programs as a Reasonably Available Least Restrictive Trade Measure Under Article XX's Nexus Requirement*, 30 Brook. J. Int'l L. 485 at 504 (2005) [hereinafter *Emslie*].

[67] K. Leitner and S. Lester, Annual Statistical Analysis, Surveys, and Indexes, WTO Dispute Settlement 1995-2007 – A Statistical Analysis, Journal of International Economic Law, 1–14. As of January 2008, 369 complaints were filed with the Dispute Resolution Board; the vast majority of these are settled in the early stages of the process. "The trend of complaints over the years shows a generally high level of 'trade remedy' complaints brought pursuant to the AD, Safeguards and SCM Agreements. With regard to some of the 'new' areas of regulation—services, intellectual property and SPS measures—the number of complaints has been limited, but fairly steady"; ibid. at 5.

[68] Scholars complain that the DSU is not familiar with environmental issues, which have inherent complexity. "Trade experts on WTO panels may not be sufficiently educated in environmental or human health related issues to resolve disputes concerning them ... [but], for better or worse, such disputes will often end up before the dispute resolution machinery of the WTO." *Emslie*, supra note 66, at 505. Amici briefs from environmental experts could help alleviate this problem.

[69] WTO Appellate Body Report, United States – Import Prohibition of Certain Shrimp and Shrimp Products (US – Shrimp I), WT/DS58/AB/R, adopted 6 November 1998 [hereinafter *Shrimp/Turtle* cases].

[70] J.H. Jackson, W.J. Davey, and Alan O. Sykes, Jr., Legal Problems of International Economic Relations 265 (4th ed. 2002) [hereinafter *Jackson*].

[71] *Jackson*, supra note 70, at 265 and 289.

[72] Ibid. at 316-17.

The challenge to a PCF label scheme ought to receive similar analysis under the DSU compared to previous challenges on similar measures, for example trade measures that protect human health and the environment. Resolution would include certain issues, such as does the measure pass muster under the requirements for national treatment (MFN principles)? If not, does the measure fall into one of the general exceptions to MFN and its chapeau? Does the measure comply with relevant WTO annex agreements, such as the agreement on Technical Barriers to Trade (TBT)? A labeling scheme would probably survive this scrutiny, but because the WTO dispute mechanism can be unpredictable, there are no guarantees that the PCF label would be upheld—and thus an eco-label could be at risk.[73] What follows is a brief analysis of how the WTO substantive law applies to a PCF labeling scheme.

B. GATT 1994 and the TBT

WTO decisions have upheld certain eco-labeling schemes. In the famous 1991 *Tuna/Dolphin* decision,[74] the AB upheld the US labeling scheme, that is, the Dolphin Protection Consumer Information Act, which provided a labeling standard for any tuna product exported from, or offered for sale in, the United States.[75] However, the same AB opinion struck down the extraterritorial application of the US *procedures* on foreign tuna harvesters to keep dolphins safe, as violating the GATT 1947 (*Tuna/Dolphin* was a pre-WTO decision).[76] More recently, WTO disputes between the United States and Mexico over tuna labeling standards have continued, and in May 2012, the AB considered and applied the provisions of the TBT Agreement in evaluating the US "dolphin-safe" tuna labeling scheme. In 2012, the AB found the US scheme to be a technical regulation that did not afford MFN status to Mexico,[77] and that the US labeling scheme "is not even-handed in the manner in which it addresses the risks to dolphins arising from different fishing techniques in different areas of the ocean".[78] However, the AB also found that the US labeling law satisfies the TBT criteria for legitimate objectives and least-restrictive

[73] "Any competitiveness measure with a serious trade impact is likely to trigger a WTO complaint and that given the nature of the WTO law ... [it] may either uphold or strike down the law"; *White Paper*, supra note 37, at 8, citing to "US Federal Climate Policy and Competitiveness Concerns: The Limits and Application of International Trade Law," Nicolas Joost Pauwelyn, Institute for Environmental Policy Solutions, Duke University, at 7.

[74] GATT Dispute Settlement Panel Report on United States – Restrictions on Imports of Tuna, GATT B.I.S.D. (39th Supp.) at 155 (1993), reprinted in 30 ILM 1594 (16 August 1991) (unadopted) [hereinafter *Tuna/Dolphin*].

[75] *Emslie*, supra note 66, at 535, n. 275, citing to the Dolphin Protection Consumer Information Act, 16 U.S.C. §1385(d)(1)(1990). This requirement is applicable if the tuna was fished in either of two situations: (1) in the Eastern Tropical Pacific Ocean by a fishing boat using purse-seine nets which do not meet the US requirements of being dolphin-safe; or (2) fished on the high seas by a fishing boat through drift net fishing; ibid. §1385(d)(1)(A) & (B). Violators are subject to civil penalties: §1385(e).

[76] "[T]he general proposition [is] that labeling programs are consistent with GATT/WTO rules, although they may not always be a reasonable alternative to other measures"; *Emslie*, supra note 66, at 537.

[77] United States – Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products, AB-2012-2, WT/DS381/AB/R at 151-52, at P 407 (16 May 2012) [hereinafter *Tuna/Dolphin II*] ("the US 'dolphin-safe' labelling provisions are inconsistent with Article 2.1 [MFN]").

[78] WTO Dispute Settlement: Dispute ds381, Current Status (12 October 2012) <http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds381_e.htm>.

trade measures.[79] For further discussion of this WTO case, see the discussion on the TBT under (iii), below.

(i) GATT 1994 Article III, MFN Principle, and PPM Distinction

GATT Article III requires that products of the exporting country "shall be accorded treatment no less favorable than that accorded to like products of national origin" with respect to domestic laws and regulations.[80] A PCF labeling scheme distinguishes products based on their production process methods (PPM)[81] by identifying GHG emissions associated with a product. The label allows consumers to discriminate between products—choosing products (domestic or foreign) with smaller carbon footprints.[82] While the products would be similar, the PPMs used to make the product (as reflected on the label) are different. The PCF label need not make any distinction based on country of origin, and the label information is expected soon to be standardized and verifiable by the ISO, as discussed below. The question remains: Are imported products the same as "like" domestic products when only the PPMs are different? Such PPM distinctions have been characterized as "one of the most important issues that the WTO Members must work out".[83]

The PPM distinction was created in the *Tuna/Dolphin* case, but it is not an expressed requirement in either the WTO agreement or the GATT.[84] The PPM distinction is simply not legally sound, although legal scholars disagree about its importance.[85] Joel Trachtman believes the distinction is appealing normatively.[86] Douglas Kysar sees PPMs as necessary for a complex world market.[87] Also, because the PPM distinction is legal under the WTO

[79] *Tuna/Dolphin II*, supra note 77, at P 331 (consistent with Article 2.2, i.e. not more trade-restrictive than necessary to fulfill legitimate objectives); and ibid. at P 311, citing to the text of Article 2.2 of the TBT Agreement ("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").

[80] GATT Article III.4, *Jackson*, supra note 70, at 218, and *Jackson Supplement*, supra note 2, at 20.

[81] "PPM" as used here in refers to the non-product-related PPM. Product-related PPMs are process or production impacting the physical characteristics.

[82] Is a product produced with less GHG emissions scientifically different physically or chemically? That is very unlikely because the carbon label only shows a calculation of GHG emissions into the global atmosphere – purely a process distinction. Also, the domestic products without the label or with larger footprints are distinguished under the labeling scheme.

[83] *Free Trade under Fire*, supra note 5, at 241.

[84] Ibid.

[85] Ibid.

[86] Joel P. Trachtman, "International Economic Law and Policy Blog, Food Fights" (28 January 2006) <http://worldtradelaw.typepad.com/ielpblog/2006/01/food_fights.html#comment-106945132> [hereinafter *Policy Blog, Food Fights*] ("Normatively, I am not convinced that the product-process distinction is a bad thing, as it has an intuitively appealing prescriptive jurisdiction allocating function. Developing countries seem to like it because it would keep the U.S. from regulating production processes in their territory").

[87] Douglas A. Kysar, *Preferences for Processes: The Process/Product Distinction and the Regulation of Consumer Choice*, 118 Harv. L. Rev. 525 (December 2004) ("Rather than being scientifically unfounded, nakedly protectionist, or ethically inconsistent, consumer process preferences instead offer an important vehicle through which individuals influence the world, express their views on public issues, and fashion their moral identity in an era of extraordinary interconnectedness, complexity, and dynamism in the market").

agreement on intellectual property, TRIPS,[88] it is disingenuous to make it illegal under GATT Art. III.[89]

In summary, PPM trade measures that are origin-neutral and verifiable should not be considered protectionist under WTO Law.[90] Regardless, trade measures employing the PPM distinction, such as a PCF labeling scheme, may continue to be challenged as unfair or discriminatory.[91] Therefore it is important to consider exceptions to MFN treatment.[92]

(ii) GATT Article XX, General Exceptions

The GATT 1994 provides general exceptions that allow discriminatory measures provided they fall under a listed category in Article XX (a)–(j) and withstand the requirements of the chapeau to Article XX.[93] In the instant case, the relevant categories are Article XX (a) public morals, (b) human and environmental health, and (g) natural-resources conservation.

In general, environmental restrictions on trade should be sustained as necessary to protect public morals in accordance with the exception in GATT Art. XX (a).[94] Excessive GHG emissions

[88] *Jackson Supplement*, supra note 2, at 335.

[89] The *Tuna/Dolphin* panel report created an arbitrary and unsustainable distinction because PPM distinction exists in the Trade Related Aspects of Intellectual Property (TRIPs) agreement between original software and copied software. *Free Trade under Fire*, supra note 5, at 241.

[90] Jason Potts, *The Legality of PPMs under the GATT Challenges and Opportunities for Sustainable Trade Policy*, International Institute for Sustainable Development (2008) fn. 15 at 6 [hereinafter *Potts* 2008], <http://www.iisd.org/publications/pub.aspx?pno=950>. Specifically, the arguments suggest that trade-related PPM measures are most appropriate when they are directed towards "origin-neutral" applications and under circumstances where credible "independent" verification is possible. "Under the modern trade, a wide range of voluntary standards-based certification and labeling schemes have been developed at the national and international levels. These systems typically revolve around verification systems for ensuring that claims are matched by practice along international supply chains. Some examples of such initiatives operating at the international level include: Forest Stewardship Council; SA 8000; WRAP standards; Fairtrade Labelling Organizations International; Rainforest Alliance; Marine Stewardship Council; Rugmark, etc."

[91] Ibid. at 4. "Three main arguments are typically provided as reasons why trade-related PPM measures are inappropriate policy instruments. First, and most evidently, it is argued that the implementation of unilateral trade-related measures can be used to serve protectionist interests. Second, it is argued that the exportation of national policy priorities through PPM-based policies is inherently in conflict with the sovereign right of states to determine their own policy priorities. Third, it is argued that the temporal and geographic distance between the enforcement of trade-related measures and the actual application of PPMs makes effective enforcement technically unfeasible and (potentially) arbitrary."

[92] Ibid. at 26–-28.

[93] *Jackson Supplement*, supra note 2, at 45. Here is the relevant text of the GATT -1994: Article XX *General exceptions*: "Subject to the requirement that such 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, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures: (a) necessary to protect public morals; (b) necessary to protect human, animal or plant life or health; ... (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption".

[94] For example, the public morals exception could be used to protect animals. Some legal scholars suggest that teleological interpretations argue heavily against using the GATT Art. XX (b) exception to protect animals

are creating a genuine and serious threat to the fundamental interests of society.[95] Using the public morals exception for environmental protection is an uncharacteristic approach to the general exceptions under GATT, and little WTO law has developed on this general exception.[96] Nevertheless, GHG emission controls (like gambling controls) are a matter of public morals on both a domestic and global scale. The moral duty of developed nations to mitigate GHGs is based on legal theories of climate justice for disadvantaged peoples.[97] The least-developed countries are the most vulnerable and have to bear the greatest burden of adjustment to climate change.[98] Moreover, personal responsibility includes carbon neutrality,[99] which is supported by information on the PCF label. Furthermore, the ethical duty to protect the environment is supported by religious leaders, who categorize polluting as sinful behaviour.[100] Thus, a domestic PCF labeling program qualifies for the public morals exception because it is substantiated and necessitated on moral grounds and can be developed in a manner that is not an arbitrary discrimination or disguised restriction.

with trade measures and note that "environmental restrictions are probably not covered either" for animal protections. The question being that if not covered under Art. XX (b), could the need for an ethical treatment of animals "push the envelope into potentially using the 'public morals' exception to justify environmental restrictions in the future?", *Policy Blog, Food Fights*, supra note 86. This paper reasons that if we assume a public-morals exception can support trade measures necessary for the ethical treatment of animals, it is immanently reasonable to assume that the public-morals exception supports measures necessary to protect the climate.

[95] For example, moral issues in the wake of climate change include the necessity that international agreements address climate-change-related effects, both direct and indirect, on human rights; see Abdon Nabadan, *Civil Society Engagement in the Current Negotiation on Climate Change: Mainstreaming a Human Rights Based Approach* (London School of Economics, Special Report, SR004 – Climate Change: Is Southeast Asia Up to the Challenge? January 2010), <http://www2.lse.ac.uk/IDEAS/publications/reports/pdf/SR004/AMAN.pdf>.

[96] For example, the AB decision in *United States – Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, WT/DS285/AB/R (7 April 2005) [hereinafter *Gambling* case], is one of the first AB decisions regarding the public morals exception. The AB used an analysis and rationale from GATT Art. XX (a) (even though it was a GATS case). It found that the US satisfied the "genuine and serious threat to the fundamental interests of society" standard as set out in footnote 5 to Article XIV (a) of the GATS, although the AB found that US measures did not meet the Chapeau of GATS Article XIV because the US had not demonstrated that its restrictions on remote gambling applied to both foreign and domestic service suppliers in a manner that did not constitute "arbitrary and unjustifiable discrimination" within the meaning of the Chapeau. See also, Jackson, "2007 Update to Legal Problems of International Economic Relations" 68 (4th ed., 2002).

[97] Maxine Burkett, *Just Solutions to Climate Change: A Climate Justice Proposal for a Domestic Clean Development Mechanism*, Buffalo Law Review, November 2007; U. of Colorado Law Legal Studies Research Paper No. 07–26.

[98] *The Least Developed Countries Report 2010: Towards a New International Development Architecture for LDCs*, chapter 7 at 226, United Nations Conference on Trade and Development (New York and Geneva, 2010).

[99] M.P. Vandenbergh and A.C. Steinemann, *The Carbon-Neutral Individual*, 82 N.Y.U. L. Rev. 1673 (December 2007) [hereinafter *Vandenbergh/Steinemann*]. But see, Kevin Smith, The Carbon Neutral Myth: Offset Indulgences for Your Climate Sins (February 2007); book review available at <http://aworldtowin.net/reviews/CarbonNeutralMyth.html>.

[100] Pope Benedict declared pollution a sin in March 2008. See "Vatican Updates Its Thou Shall Not List", 10 March 2008, The Boston Globe, or The Erickson Tribune, <ericksontribune.com/2008/03/vatican-lists-new-sinful-behavior/>. See also, the Creation Care Movement, see <http://www.creationcare.org/>.

Legal scholars conclude that proper labeling schemes, such as the PCF label, should pass muster under GATT Art. XX (b) health or (g) natural resources and its chapeau.[101] WTO decisions on these exceptions include the *Shrimp/Turtle* cases,[102] which tell us that the trade measure must be necessary—XX (b); the domestic policy objectives and WTO objectives should be balanced; and the trade measure should be primarily aimed at the specific policy objective—XX (g).[103] Scholars caution that these exceptions provide states with autonomy to enact environmental protections within certain limits. Manuel Teehankee cites to the WTO Panel decision in *China Raw Materials*,[104] and posits limitations such that an "environmental measure [must] be made in *good faith* and not be an arbitrary or disguised trade restriction. The good faith test is hard WTO law and international law that can be expected to continue in its stringency."[105] Such a limitation is based on the chapeau of Art. XX.

The chapeau of Art. XX requires that "a given measure must not be applied in a manner which amounts to either unjustifiable or arbitrary discrimination between countries where the same conditions prevail".[106] Some legal scholars read this chapeau and the two general exceptions in light of the WTO preamble language on sustainable development and interpret the chapeau language so that it constricts environmental-protection measures.[107] These scholars contend that trade considerations are more important than environmental concerns under WTO law.[108] I believe the better interpretation is that both the letter and spirit of WTO law direct a panel or the AB to embrace interdisciplinary concerns when resolving disputes by considering human health

[101] *Potts*, supra note 90, at 25, and see *Emslie*, supra note 66, at 486 and 545. The chapeau also applies to Art. XX (a).

[102] *Potts*, supra note 90, fn. 25 at 9, citing to *United States – Import Prohibition of Certain Shrimp and Shrimp Products (Complaint by India, Malaysia, Pakistan and Thailand*) (1998), WTO Doc.WT/DS58/R (Panel Report); *United States – Import Prohibition of Certain Shrimp and Shrimp Products (Complaint by India, Malaysia, Pakistan and Thailand*) (1998), ETO Doc. WT/DS58/AB/R (Appellate Body Report) [hereinafter the *Shrimp/Turtle* case].

[103] *Potts*, supra note 90, at 25.

[104] WTO, *China – Measures Related to the Exportation of Various Raw Materials* [hereinafter *China Raw Materials*], WT/DS394/395/398/R (5 July 2011) (The "WTO Panel found little credibility in the extensive claims of climate change mitigation justifications to support either an Article XX (b) or (g) exception for export restrictions on energy intensive and highly polluting products").

[105] *Teehankee*, supra note 22, at 34.

[106] *Potts* 2008, supra note 90, at 25 ("Accordingly, the AB outlined a three-step process for assessing whether or not this, in fact, is the case: (1) determine whether the measure is applied in a manner which discriminates where the same conditions prevail and, if so, determine; (2) whether the discrimination is arbitrary; or (3) whether the discrimination is unjustifiable").

[107] S. Gaines, *The WTO's Reading of the GATT Article XX Chapeau: A Disguised Restriction on Environmental Measures*, 22 U. Pa. J. Int'l Econ. L. 739 (2001). See also *Potts*, supra note 90, at 25. Scholars generally agree that the AB's *Shrimp/Turtle* interpretation of the chapeau constrains the availability of the general exemptions, as the plain language suggests.

[108] J.I. Yoon, *The World Trade Organization: Environmental Police*? 9 Cardozo J. Int'l & Comp. L. 201 at 227–28 (2001). Yoon states that "the WTO claims that it is indeed the proper forum to make decisions regarding trade and the environment. As proof, supporters offer the language of the WTO charter and point to the inclusion of 'sustainable development' as an aim of the organization. They forcefully point to this to try and convince critics to forget that the WTO's incorporation of 'environmental issues, as they relate to trade, are ... firmly anchored in the multilateral trading system.' These issues will always be analyzed from a trade standpoint; environmental concerns will never gain equal importance."

and environmental protection as integral components of WTO law, even when free and fair trade are equally important.

(iii) TBT Agreement

Members must comply with the WTO's Agreement on Technical Barriers to Trade.[109] In general, the TBT requirements for a measure such as the PCF labeling scheme are similar to, but not the same as, the GATT Articles III and XX.[110] However, the TBT is "even broader than the requirement under GATT as it requires that all measures falling under the TBT Agreement, whether or not discriminatory, not be more trade restrictive than necessary".[111] Such a requirement could result in eco-labels being a "catch all", or default, reasonably available trade measure for environmental protection that might undermine other more restrictive, but necessary measures.[112]

For example, in the 1991 *Tuna/Dolphin* case, the "Dolphin Safe" label was a least-restrictive trade measure even though it may not have been effective enough in and of itself to stop tuna harvesters from needlessly destroying dolphins. Nevertheless, given the successes of other labeling programs under the WTO,[113] "if the possibility of a labeling program exists, other trade measures may not [meet] the requirements of Article XX".[114] Yet, those other trade measures may be reasonable and more effective.

In *Tuna/Dolphin II*, the latest dispute over tuna labels brought by Mexico against the United States, the AB found that the US labeling measure was inconsistent with the MFN provisions of the TBT Agreement, but consistent with other TBT provisions, e.g. that it meets a legitimate objective and is a least-trade-restrictive measure.[115] Legal scholars have criticized this AB decision for, first, taking an exceptionally broad view of the meaning of "mandatory" under the TBT by finding the voluntary US labeling program to be a technical regulation; and, second, adopting a competition-based test to determine compliance with MFN under the TBT, which gave little consideration to legislative objectives and purposes.[116] Some have opined that this WTO ruling means that the United States must revise its entire tuna-labelling scheme or face sanctions.[117]

[109] *Jackson Supplement*, supra note 2, at 149.
[110] Marcy Nicks Moody, *Warning: May Cause Warming, Potential Trade Challenges to Private Environmental Labels*, 65 Vand. L. Rev. 1401at 1422 (October 2012) [hereinafter *Moody*] (in *Tuna/Dolphin II*, the AB arguably found that the scope and content of the TBT Article 2.1 and GATT Articles I and III are not the same at least for purposes of judicial economy in this case, but did not elaborate).
[111] *Green*, supra note 30, at 148.
[112] *Emslie*, supra note 66, at 486.
[113] For example, the use of warning labels was recognized as a less restrictive trade measure in the *Thai Cigarettes* case. See *Emslie*, supra note 66, at 539.
[114] Ibid. at 486.
[115] *Tuna/Dolphin II*, supra note 77.
[116] *Moody*, supra note 110, at 1419–21.
[117] John Olen, U.S. Loses WTO Appeal in Dolphin-Safe Tuna Case, Economy in Crisis (16 May 2012) [hereinafter *US Loses Dolphin/Tuna II*] <http://economyincrisis.org/content/u-s-loses-wto-appeal-in-dolphin-safe-tuna-case>.

However, the AB's decision in fact found that the labelling scheme is a legitimate trade measure although it should be modified to be even-handed for Mexican fisheries.[118] This will not be easy. The United States intends to implement the rulings by June 2013 in a manner that respects its obligations.[119] The case illustrates why some view the WTO as incapable of protecting the environment,[120] suggesting instead that MEAs may be a better forum to resolve such disputes. For example, that the UNFCCC could provide a funding mechanism to assist least-developed countries in establishing PCF labelling schemes.

Tuna/Dolphin II also illustrates the limitations of an MEA that impacts international trade. The international community does have an MEA for dolphin-safe tuna fishing, namely the Agreement on the International Dolphin Conservation Program (AIDCP).[121] However, it is insufficient to protect fair trade. In *Tuna/Dolphin II*, the AB determined that the "AIDCP dolphin-safe definition and certification" does not constitute a "relevant international standard" within the meaning of the TBT Agreement because it lacks membership openness and thus cannot be considered an "international standardizing body".[122] Thus, in turn, the AIDCP certification does not enjoy a rebuttable presumption of fairness under the TBT.[123] Applying this to the case of a PCF label, the UNFCCC should ensure that any such mechanism for least-developed countries is harmonized with the ISO standards described below.

The substantial criticisms of the *Tuna/Dolphin II* case from the international environmental community should motivate the DSB to bring greater equipoise to considerations of environmental-trade measures compared to trade competitiveness. At the same time, *Tuna/Dolphin II* instructs us that when an MEA impacts trade, it should follow WTO rules, and in order to be fair, labeling standards with international impacts should follow the TBT Agreement.

In the instant case, a PCF label would stimulate consumer demand for low-GHG products and reduce the GHG emissions by the producer, directly reducing global GHG emissions and mitigating global warming. This objective assumes carbon neutrality as normative behaviour.[124] However, such a scheme and its objectives only incrementally address GHG emissions related to households. Other climate change mitigation should be more efficient and directly reduce GHG emissions, such as the Kyoto Protocol's cap-and-trade program or domestic carbon taxes.

[118] *Tuna/Dolphin II*, supra note 77, at P 407. See also, WTO Dispute Settlement: Dispute ds381, *Current Status*, website (12 October 2012), <http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds381_e.htm>.
[119] Ibid.
[120] *US Loses Dolphin/Tuna II,* supra note 117.
[121] *Tuna/Dolphin II*, supra note 77, at P 3.
[122] Ibid. at P 399.
[123] Ibid. at P 348.
[124] *Vandenbergh/Steinemann*, supra note 99, at 1673 ("The norm of carbon neutrality involves a perceived obligation to achieve zero net carbon emissions through a combination of reductions in carbon emissions and purchases of carbon offsets. The carbon-neutrality norm reflects the idiosyncrasies of the carbon emissions problem. Unlike many behaviors that contribute to environmental harms, individuals can achieve carbon neutrality not just by eliminating emissions but also by a combination of emissions reductions and offset purchases"; ibid. at 1678).

An unintended consequence of the TBT's more restrictive approach is that a WTO member defending a domestic carbon tax or a cap-and-trade multilateral program may also have to defend against the argument that a labeling program is a reasonably available least-restrictive alternative measure.[125] However, the incremental nature of labeling complements rather than replaces the more effective cap-and-trade or tax programs. Many response measures in addition to the PCF labels will be necessary to fight the climate change battle and should be sustained under the TBT and the GATT 1994.

The advantage of the TBT for WTO members is that it provides substantive guidelines for developing technical regulations, including labeling schemes.[126] For example, the TBT's Code of Good Practice provides for standardizing and harmonizing technical regulations on international trade.[127] Thus, when a WTO member follows such guidelines, the scheme should survive a challenge. The next part describes the design of a valid PCF labeling scheme that is fair, effective, and should comply with the TBT agreement.[128]

IV. Designing a PCF Label to Meet WTO Requirements

A PCF labeling scheme should be designed to help markets fully internalize the costs associated with the utilization of natural resources and all market activity in ways that support long-term sustainable development.[129] Because the PCF label is for products, an effective design should help consumers achieve carbon neutrality, inform and satisfy consumer preferences, provide an opportunity for choice, and be uniform or standardized to avoid spurious producer claims.[130] The standards for label certification should encourage producers to lower their GHG emissions, which typically lower costs but can also raise costs.[131] A PCF label may enhance a producer's public image, improve its corporate culture, and provide better market access and cost internalization when using the label; it can also force producers in the supply chain to consider GHG emissions in their productions. For example, Walmart, the world's largest retailer, "estimates that 90% of its emissions emanate from its supply chain of over 120,000 companies".[132] Moreover, the PCF labeling scheme should be designed to meet the overarching goals of the WTO, including transparency, accountability, and, most importantly, non-discrimination between WTO members. It should avoid national protectionism. When creating and maintaining the PCF labeling scheme as described above, certain participants are essential.

[125] *Emslie*, supra note 66, at 545.
[126] *Jackson Supplement*, supra note 2, at 164.
[127] Ibid. at 166–68.
[128] *Emslie*, supra note 66, at 539–44.
[129] *Potts*, supra note 90.
[130] *30 Years of EU Env'l Law*, supra note 10.
[131] *Following the Footprints*, supra note 4.
[132] Ibid. ("Tesco, for example, reckons its supply chain produces ten times the emissions of its direct operations (heating and lighting stores and offices, and so forth), and that consumer emissions may be ten times as big again").

The participants in the process of developing and implementing the PCF label should include a technical advisory group, a certification board, government bodies, and a consultation forum. Such participation ensures that the label would meet consumer and producer expectations of accountability or transparency, quality, fairness, and good governance. The proposed California Carbon Labeling Act of 2008[133] relies on similar participants as does the EU Eco-label.[134]

The technical advisory group would set and periodically review standards for the technical regulations to establish the label for various products. A globally recognized PCF label, meeting the expectations of WTO members, should be in conformity with the ISO.[135] As noted, the ISO is preparing a PCF labeling standard based on the PAS 2050 and the GHG Protocol for Products. For example, ISO 14067 may become available as a Final Draft International Standard by February 2013, with publication expected in July 2013.[136]

In a WTO dispute, a technical regulation based on an ISO standard enjoys a rebuttable presumption of validity.[137] The importance of a domestic PCF labeling scheme following the new ISO standard cannot be understated in light of the *Tuna/Dolphin II* case discussed above. As this new internationally harmonized PCF labeling standard is developed, the ISO should also consider

[133] See *California proposed PCF Label Act*, supra note 1. Relevant text from the proposed state law: 44580. (a) The state board shall develop and implement a program for the voluntary assessment, verification, and labeling of the carbon footprint of consumer products sold in this state. (b) The program shall do all of the following: (1) Establish a methodology for determining and communicating the carbon footprint of a consumer product. If feasible, the state board shall establish standards and methodologies for determining and communicating to consumers on a product label whether a product has a lower carbon footprint than the average comparable product available in the state. (2) Develop a standardized, easily understandable, label that communicates to consumers relevant information about the carbon footprint of a consumer product. (3) Allow a consumer product manufacturer, on a voluntary basis, to determine the carbon footprint of the product by applying the criteria and standards developed by the state board, and to include that information on the product, product packaging, and product advertising, consistent with the labeling standards developed by the board. (c) The state board shall consult with representatives of consumer product manufacturers, consumer groups, and environmental groups, and conduct public hearings and workshops as required to comply with this section. (d) The state board may contract with appropriate experts to develop a proposed carbon footprint methodology and carbon labeling standard. (e) Consumer product manufacturers that label their products in accordance with this chapter shall be responsible for all costs related to the review and validation of carbon label information required by the state board.

[134] *30 Years of EU Env'l Law*, supra note 10, at 118.

[135] TBT, Art. 4.2. "Standardizing bodies that have accepted and are complying with the Code of Good Practice shall be acknowledged by the members as complying with the principles of this Agreement." Generally, the Code of Good Practice is based on ISO definitions. "If the labeling program is time-tested in other countries or is recommended by international organizations, then it is more likely to be found a reasonably effective alternative measure. However, it is questionable under these disputes whether labeling programs that are new and untested will meet the requirements of being reasonably effective." *Emslie*, supra note 66, at 542. See also, ISO Standard 14025, Environmental labels and declarations – Type III environmental declarations – Principles and procedures, <http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=38131>.

[136] PCF World Forum, <http://www.pcf-world-forum.org/about/>.

[137] B. Schwartz, *WTO and GMOs: Analyzing the European Community's Recent Regulations Covering the Labeling of Genetically Modified Organisms,* 25 Mich. J. Int'l L. 771 (2004) ("Where possible, regulations must use relevant international standards. If the international standards are used, then there is a rebuttable presumption that the regulation is not an 'unnecessary obstacle to trade"').

assessment reports from the IPCC, particularly concerns for least-developed countries.[138] Other international forums are also available for ISO consideration. For example, the PCF World Forum is an international body that seeks to create solid foundations for assessing and managing PCFs and the overall environmental performance of goods and services.[139]

Government bodies have the required authority and legitimacy to establish domestic PCF labeling schemes, which should incorporate the new ISO standard. In addition, governments should conform their domestic label to technical regulations and standards in accordance with the TBT.[140] This could be challenging because, as discussed above, many competing organizations and countries are developing PCF labels, which could easily lead to non-conforming technical regulations which undermine consumer confidence in the label.[141] The key to avoid non-compliance with the TBT is to go with the ISO standard. In addition, government-sponsored programs based on respected standardization bodies, for example the BSI, offer trustworthiness and the capability to adopt the ISO standards.

Finally, a certification board would provide an independent administrator to distribute and verify use of the label and maintain technical reviews, and the consultation forum would involve the groups of stakeholders (producers, consumers, and NGOs) in establishing the label for their products.[142] The PCF World Forum could serve as a consultation forum. Consultation is extremely important because a PCF label involves coordination between scientists, environmentalists, economists, manufactures, retailers, farmers, lobbyists, and many others.[143] In summary, a PCF labeling scheme can be designed to meet the key trade issues and help reduce GHG emissions. Thus, it would be legal under the WTO and would support sustainable development.

V. Conclusion

The international community should use the PCF label in the marketplace to help the effort against global warming. "It is unacceptable for the WTO to ignore or undermine environmental concerns when there is a global consensus on those concerns."[144] Moreover, such labeling should as much as practical avoid trade barriers and discrimination.[145] A PCF label may be designed to be consistent with WTO law and policy, including the principle of MFN, its general exceptions, and the TBT. Designing a PCF label within the WTO framework encourages governments to harmonize environmental-trade measures with international standards and be transparent and non-discriminatory. Although it may be "easy to hide protectionism behind ... environmental

[138] *Teehankee*, supra note 22.
[139] PCF World Forum, <http://www.pcf-world-forum.org/about/>.
[140] TBT, Articles 5–9, *Conformity with Technical Regulations and Standards*.
[141] A Google search of the term "carbon footprint calculator" lists 320,000 results.
[142] *30 Years of EU Env'l Law*, supra note 10, at 118.
[143] The Economist, *Not on the label: Why adding "carbon footprint" labels to foods and other products is tricky*, 17 May 2007, <http://www.economist.com/science/displaystory.cfm?story_id=9184296>.
[144] *Free Trade under Fire*, supra note 5, at 243.
[145] *30 Years of EU Env'l Law*, supra note 10, at 109.

concerns",[146] the goals of a PCF labeling scheme are environmental, not unfair trade and protectionism. Avoidance of unfair discrimination and protectionism is essential when seeking successful use of trade measures to force international acceptance of environmental standards.[147] A carefully crafted PCF labeling scheme should accomplish the international acceptance of this new, beneficial environmental-trade regulatory program. As Douglas Irwin succinctly states, "Trade can't be free at all costs."[148] Regulations are essential to keep trade fair between nations and to protect human health and the environment.

Information is power. A PCF label provides a means of mass communication about climate change and influences personal choices. The PCF labeling scheme based on the UK Carbon Trust label and proposals in California would be an excellent public policy choice for any state. The scheme is an appropriate response measure for developed countries to meet their obligation to mitigate and adapt to climate change.

Developing countries are least likely to appreciate that PCF labels are necessary, reasonable responses to climate change. Global trade organizations, such as the WTO, should support the international community in obtaining and using information on the GHG emissions of products via PCF labeling schemes. International standards for the labeling scheme and sharing the GHG information associated with products could help mitigate carbon leakage. Although climate policy is stalled at the US federal level and at the UNFCCC, states are still taking measures to mitigate GHG emissions. If the UNFCCC begins to address PCF labeling schemes, it may include a mechanism to help developing countries that may not have funds to establish a domestic labeling scheme. As discussed above, an MEA that establishes standards should also be consistent with the TBT agreement Code of Good Practice. The WTO has an important role to play if a country brings a challenge to a PCF labeling scheme. It should support environmental-trade measures that fight global warming.

[146] *Free Trade under Fire*, supra note 5, at 202.
[147] *Free Trade under Fire*, supra note 5, at 202.
[148] Ibid. at 243.