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The WTO and Biofuels: The Possibility of Unilateral Sustainability Requirements

Enrique Rene de Vera*

I. INTRODUCTION

“What I discovered was that ethanol might completely replace petroleum in [the United States]. And a lot of countries.”

Vinod Khosla, venture capitalist

Over the last decade, the global scientific community has largely accepted the existence of global warming. According to the Intergovernmental Panel on Climate Change (“IPCC”) of the United Nations, “major advances in climate modeling and the collection and analysis of data now give scientists ‘very high confidence’ (at least a 9 out of 10 chance) of being correct in their understanding of how human activities are causing the world to warm.” In turn, governments around the world have begun implementing regulations designed to stem the rise in global temperatures. In particular, such regulations have been aimed at minimizing emissions of greenhouse gases. In the eyes of many countries, one of the most promising solutions to the problem of global warming and greenhouse gases is to substitute biofuels for fossil fuels. As the price of fossil fuels has risen over the last decade and has shown few signs of retreating, biofuels have at last become an economically viable and potentially environmentally friendly alternative to fossil fuels. While biofuel production and trade today remain miniscule compared to that of fossil fuels, the future of biofuels looks promising

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1 Adam Lashinsky and Nelson D. Schwartz, How to Beat the High Cost of Gasoline, Fortune 74, 82 (Feb 6, 2006).

given the ready availability of production inputs, the advanced state of much biofuel technology, and the sustained high prices of fossil fuels.

Trade in biofuels raises important questions concerning international trade law, particularly with regard to the interactions between World Trade Organization ("WTO") rules and environmental protection efforts that operate outside of the WTO framework. Specifically, many environmental activists have sounded alarm bells over concerns that several WTO Panel and Appellate Body rulings imply that free trade trumps environmental protection. The potential for environmental degradation caused by biofuel production has led environmental advocates to argue that in some cases the use of biofuels may be counterproductive because the manner in which the inputs are grown, harvested, and processed may do more to harm the environment than to protect it. Under such conditions, some researchers contend, trade in biofuels should be curbed.

If one of the central rationales for switching to fossil fuel alternatives stems from a desire to protect the global environment, then environmentally unfriendly biofuels must be avoided completely.

Under current WTO rules and jurisprudence, however, the ability of countries to heed the call of such advocates appears limited. Simply put, potentially environmentally friendly provisions of the General Agreement on Tariffs and Trade ("GATT") have been construed narrowly and thus provide little room for sustainable development principles to play meaningful roles in trade disputes. Accordingly, advocates of sustainability have interpreted the WTO's decisions as placing free trade ahead of environmental and human health considerations.

While the concern of WTO skeptics is justified, declaring complete and total victory for free trade—at the expense of environmental protection—would be conceding too much. When WTO rules were initially adopted, the biofuel industry was practically nonexistent. Thus, treatment of biofuels under WTO rules remains unclear. The language of WTO jurisprudence may very well


4 See, for example, Renton Righelato and Dominick V. Spracklen, Carbon Mitigation by Biofuels or by Saving and Restoring Forests?, 317 Science 902 (2007).

5 See Section III.B.

6 See Section III.

7 See, for example, Greenpeace, Encourage Sustainable Trade, ¶ 1 (2007), available online at <http://www.greenpeace.org/international/campaigns/trade-and-the-environment> (visited Nov 17, 2007).
accommodate unilateral efforts to address genuine fears of environmental degradation. More specifically, the existing Generalized System of Preferences ("GSP") provides a framework that may allow for legal discrimination against biofuels produced using unsustainable methods.

This Development introduces the international legal issues raised by increasing trade in biofuels. Section II of the Development surveys the current biofuel landscape, providing statistics on the use and trade of biofuels, and discusses the prospect for increased production and trade in biofuels. Section III discusses the concept of sustainability—particularly in the context of biofuel production—as well as WTO treatment of past efforts to regulate trade based on environmental concerns. In conclusion, Section IV argues that current WTO jurisprudence leaves open the possibility that WTO members may rightfully discriminate against unsustainably produced biofuels.

II. THE STAKES: BIOFUEL TRADE TODAY AND TOMORROW

A. THE PROMISE OF BIOFUELS: A RENEWABLE AND CLEANER ALTERNATIVE TO PETROLEUM

Biofuels consist primarily of two different types: biodiesel and ethanol. Biodiesel is a clean-burning alternative to petroleum fuel that is made from renewable resources, such as palm oil or soybean oil. It can be used as an additive to petroleum fuels or used by itself in unmodified diesel engines. The use of biodiesel might lead to a substantial reduction of unburned hydrocarbons, a major contributor to ozone and smog, and results in a substantial reduction in carbon monoxide and particulate matter (of about 48 and 47 percent, respectively) when compared to emissions from normal diesel fuel. A 1998 study sponsored by the US Department of Energy and the US Department of Agriculture concluded that biodiesel reduces net carbon dioxide emissions, a leading source of global warming, by 78 percent compared to petroleum diesel.8

Like biodiesel, ethanol can also be used as an alternative fuel or as an additive to petroleum-derived fuel used in conventional gasoline engines. Currently, ethanol is made primarily from corn or sugar, although any biomass containing sugar, starch, or a combination of the two can be converted into ethanol. Ethanol burns without particulate emissions and produces less carbon monoxide and nitrogen oxide than gasoline.9 According to a report issued by Argonne National Laboratories, ethanol use can reduce total greenhouse gas

emissions by up to 87 percent. Since the carbon dioxide produced during ethanol combustion is largely offset by the carbon dioxide that was absorbed during the growth of the plants used to make ethanol, on balance ethanol greatly reduces carbon dioxide emissions relative to gasoline.

An increasingly favorable economic posture vis-à-vis petroleum further strengthens the case for biofuels. Over the last few years, petroleum prices have remained stubbornly high. Since the middle of 2005, the average price of crude oil originating from OPEC countries has remained above $50 per barrel. Today, Brazilian-sourced ethanol remains an economically viable alternative to crude-based fuels, so long as crude prices remain above $35–$40 per barrel. For corn-based ethanol produced in America today, the price threshold is approximately $50. As ethanol production processes become more efficient, however, experts expect ethanol to be economically competitive at oil prices as low as $25 per barrel. Moreover, technological advances in car engines reduce the need for additional investment to spur widespread adoption of biofuels. Automobile manufacturers around the world have introduced vehicles that—with little or no modification—can consume biofuel.

In addition to attractive economics, cleaner emissions profiles make biodiesel and ethanol a highly desirable alternative to fossil fuels for governments seeking to curb air pollution. Signatories to the Kyoto Protocol

have committed to reducing the growth of greenhouse gas emissions caused by human activity within their territories. For governments seeking to comply with the Kyoto Protocol, the increasingly compelling economic posture of ethanol vis-à-vis petroleum-based fuels, combined with the clean-burning properties of biodiesel and ethanol, make biofuels an irresistible alternative to petroleum.

B. THE BIOFUELS LANDSCAPE

Today, the US and Brazil produce most of the world's ethanol supply. In 2006, the US accounted for approximately 36 percent of global production while Brazil accounted for 33 percent; the third largest producer was China with 8 percent.\(^\text{17}\) Trade in biofuels is currently quite small. Only approximately 10 percent of global biofuel production is traded internationally, and half of these sales consist of Brazilian exports.\(^\text{18}\) In the coming years, however, trade is projected to grow significantly. Demand will likely be triggered by two primary factors: (1) government mandates compelling the use of biofuels and (2) high petroleum prices that make biofuels economically viable alternatives to petroleum fuels. Governments around the world have enacted legislation that requires significant consumption of biofuels in the coming years. For example, the EU Directive on the Promotion of the Use of Biofuels or Other Renewable Fuels for Transport mandates that by 2010, biofuels must comprise at least 5.75 percent of total transportation fuels consumed by each Member State.\(^\text{19}\) In the US, the Energy Policy Act of 2005 set a biofuel consumption target of 7.5 billion gallons by 2012.\(^\text{20}\) In 2005, Japan set a goal to replace about 500 million liters of petroleum-based transportation fuels with biofuels by 2010.\(^\text{21}\) In pursuit of this goal the Japanese Environment Ministry has mandated that by 2010, all new cars

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must be able to run on a blend of 10 percent bioethanol and 90 percent petrol.\textsuperscript{22} Meanwhile, by 2020, China hopes to meet 15 percent of its transportation fuel need with biofuels.\textsuperscript{23}

The geography of likely biofuel consumption and efficient production increases the likelihood of significant growth in international trade in biofuels. Simply put, the countries that can most efficiently produce biofuel feedstocks are not the countries that will account for the vast majority of biofuel consumption in the near future.\textsuperscript{24} Generally speaking, the feedstocks most efficiently converted to biofuels today are grown in subtropical or tropical locales. Furthermore, countries located in subtropical and tropical regions generally benefit from longer growing seasons and lower labor costs. Indeed, the comparative advantage of subtropical and tropical countries in biofuel production has resulted in the exponential growth of investment in biofuels in many developing countries. Brazil, already one of the world's largest ethanol producers, plans to double its ethanol exports by 2010 to fulfill the demands of its current customers, Japan and Sweden.\textsuperscript{25} To this end, Brazil plans to build 50 new ethanol mills, adding to the 250 that already exist.\textsuperscript{26} Indonesia announced plans to invest US$22.5 billion in an effort to establish a biofuel industry capable of exporting 12 billion liters of biofuel by 2010.\textsuperscript{27} In 2006, Malaysia began a program to build three 60,000-ton biodiesel production plants with the goal of capturing 10 percent of the global biofuel trade.\textsuperscript{28} Additionally, biofuel advocates have identified the African continent as well-suited for the production of biofuels. Jatropha, a plant traditionally used to stem desertification, produces seedpods that can be easily processed into biodiesel.\textsuperscript{29} In hopes of capitalizing on

\begin{itemize}
  \item \textsuperscript{22} Id at ¶ 19.
  \item \textsuperscript{23} Latner, O'Kray, and Jiang, Bio-Fuels: An Alternative Future for Agriculture at 3 (cited in note 18).
  \item \textsuperscript{24} For example, the production cost of sugarcane-based ethanol in Brazil is approximately US$0.81, while the cost of producing corn-based ethanol in the US is about US$1.03. The ability to extract more ethanol per unit of sugarcane biomass compared to corn biomass accounts for a significant portion of the cost difference. See The Economic Feasibility of Ethanol Production from Sugar in the US, iv (USDA July 2006), available online at <www.usda.gov/oce/EthanolSugarFeasibilityReport3.pdf> (visited Nov 17, 2007).
  \item \textsuperscript{25} Brazil to Double Ethanol Exports, Reuters ¶ 1 (Feb 5, 2007), available online at <http://www.reuters.com/article/economicNews/idUSL0447785720070205?sp=true> (visited Nov 17, 2007).
  \item \textsuperscript{26} Lashinsky and Schwartz, How to Beat the High Cost of Gasoline at 82 (cited in note 1).
  \item \textsuperscript{27} Indonesia Aims to Export 12 Billion Liters Biofuel, People's Daily Online ¶ 1–2 (Aug 15, 2006), available online at <http://english.people.com.cn/200608/15/eng20060815_293069.html> (visited Nov 17, 2007).
  \item \textsuperscript{28} Export Drive for Biofuel: Focus on Malaysia, Australian 3 (Jun 15, 2006).
  \item \textsuperscript{29} Karen Palmer, The Little Plant that Could, Toronto Star A21 (Feb 24, 2007).
\end{itemize}
this potential, Ghana has set aside US$1.6 million to help establish jatropha plantations and has received US$35 million from India to assist in the effort.  

C. THE PROBLEM OF SUSTAINABILITY

Although biofuels hold much promise as a means of significantly reducing the emission of greenhouse gases around the world, such promise is not guaranteed. Like many solutions proposed to aid in environmental preservation, biofuels potentially have a dark side. By and large, the potential for significant reductions in greenhouse emissions serves as the impetus for substituting biofuels in place of fossil fuels. Critical to achieving this goal, however, is ensuring that biofuel production methods themselves do not excessively contribute to the emission of greenhouse gases or to other forms of environmental degradation.

A recent study of palm oil production in Southeast Asia conducted by Wetlands International and Delft Hydraulics highlights the problem of sustainability in biofuel production. In the study, the authors argue that the production of palm oil biofuel in Indonesia and Malaysia did more harm than good to the environment. Specifically, the authors contend that palm oil plantations involved the clearing of huge tracts of rainforests and the overuse of chemical fertilizers. Even worse, these palm plantations were often created by draining and burning peatland, which resulted in the release of massive amounts of carbon dioxide into the atmosphere. Partly in pursuit of biofuel production to satisfy demand in developed countries like the Netherlands, Indonesia has quickly become the world's third-largest producer of carbon dioxide. The irony is thick: biofuels are intended to preserve the environment, but due to production methods that degrade the environment, biofuels potentially fall well short of achieving this intended goal. Thus, in terms of sustainability, biofuel production methods are critical. According to the European Environmental Agency, biofuel use can result in a “90 percent reduction compared to fossil fuels—or a 20 percent increase.”

30 Id.
32 Id at 10.
33 Id at 29.
35 Elisabeth Rosenthal, Once a Dream Fuel, Palm Oil May Be an Eco-Nightmare, NY Times C1 (Jan 31, 2007).
A similar concern over slash and burn production hovers over the ethanol industry of Brazil. As production there increases, critics have raised concerns over increased pressure on resources, including land, water supply, and labor, which may negatively impact the local environment. The expansion of feedstock plantations often involves the wholesale destruction of virgin rainforest and jeopardizes the survival of threatened species.\(^3\) Worse yet, production methods often include burning sugarcane fields, thereby emitting significant amounts of the very greenhouse gases that ethanol use is supposed to mitigate.\(^3\) An August 2006 report by researchers at the University of Utrecht investigated the current and potential future state of the Brazilian bioethanol industry with regard to Dutch requirements for sustainability as set forth by the Dutch government. The report assessed the Brazilian industry along several sustainability dimensions, including competition with the local food supply, biodiversity, labor conditions, human rights, and the environment.\(^3\) Environmental factors included waste management, use of fertilizers, prevention of soil erosion, preservation of surface and ground water, airborne emissions, and the use of genetically modified organisms.\(^3\) While the report found that the current state of the industry largely met Dutch sustainability requirements for 2007, there were many uncertainties raised as to whether sustainability requirements for 2011 would be met.\(^4\)

III. INTERNATIONAL LAW AND BIOFUEL TRADE

A. DEFINING SUSTAINABILITY

For at least twenty-five years, environmental sustainability has been a concern among governments around the world. The Rio Declaration—a product of the 1992 Earth Summit—set forth a broad set of principles to be followed by UN member countries. Many of these principles carry implications for global trading. For example, according to Principle 7:

States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have

\(^3\) Brummitt, Orangutans Squeezed by Biofuel Boom at ¶2 (cited in note 34).


\(^3\) Id at 23–52.

\(^4\) Id at 91.
common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.\footnote{Id at ¶ 15.}

Principle 8 continues: "To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies."\footnote{Id at ¶ 19.}

Principle 12, however, reins in potentially expansive readings of Principles 7 and 8 in matters of international trade:

States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus.\footnote{Id at ¶ 14 (1992).}

Other instruments of international law also acknowledge the importance of sustainable development and provide similar definitions. The Third United Nations Convention on the Law of the Sea embodies a strong sentiment that sustainable development ought to inform regulation of marine environments.\footnote{Jonathan L. Hafetz, Fostering Protection of the Marine Environment and Economic Development: Article 121(3) of the Third Law of the Sea Convention, 15 Am U Intl L Rev 583, 602–03 (2000). See also United Nations Convention of the Law of the Sea (1982), preamble, 21 ILM 1261, 1271 (1982). Recognizing the desirability of establishing through this Convention, with due regard for the sovereignty of all States, a legal order for the seas and oceans which will . . . promote the . . . equitable and efficient utilization of [the seas'] resources, the conservation of their living resources, and the study, protection and preservation of the marine environment.}

The Convention on Biological Diversity requires parties to "[d]evelop national strategies, plans or programs for the conservation and sustainable use of biological diversity"\footnote{United Nations Convention on Biological Diversity (1992), 1760 UN Treaty Ser 79, art 6(a).} and to "[e]stablish a system of protected areas or areas where special measures need to be taken to conserve biological diversity."\footnote{Id, art 8(a).}

The Framework Convention on Climate Change states, "[t]he ultimate objective [of
stabilizing greenhouse gas concentrations in the atmosphere] ... is to enable economic development to proceed in a sustainable manner.\textsuperscript{47} Lastly, the Statement of Principles for a Global Consensus on the Management, Conservation, and Sustainable Development of All Types of Forests states:

Forestry issues and opportunities should be examined in a holistic and balanced manner within the overall context of environment and development, taking into consideration the multiple functions and uses of forests, including traditional uses, and the likely economic and social stress when these uses are constrained or restricted.\textsuperscript{48}

All in all, there is much support for the existence of a global consensus that government actions around the world should be guided by principles of sustainable development.

B. THE WTO AND SUSTAINABILITY: IS IT ALL JUST LIP SERVICE?

The WTO’s stance toward considerations of sustainability is mixed. On the one hand, statements by WTO leaders\textsuperscript{49} and reports issued by WTO adjudicative bodies\textsuperscript{50} acknowledge that sustainable development is an explicit goal of the WTO. Furthermore, the GATT provides textual hooks on which sustainability arguments could find support. However, no dispute thus far has been explicitly decided on sustainability grounds in favor of the party invoking principles of environmental sustainability. In fact, many decisions that discuss the importance

\textsuperscript{47} United Nations Framework Convention on Climate Change (1992), 1771 UN Treaty Ser 107, art 2.


\textsuperscript{49} See, for example, Pascal Lamy, Globalization and the Environment in a Reformed UN: Charting a Sustainable Development Path, \textit{\textcolor{red}{8}} (Feb 5, 2007), available online at <http://www.wto.org/english/news_e/sppl_e/sppl54_e.htm> (visited Nov 17, 2007) (Address at the 24th Session of the Governing Council/Glbal Ministerial Environment Forum, Nairobi); World Trade Organization, Decision on Trade and Environment, WTO Doc No LT/UR/D-6/2 (Apr 15, 1994) (“There should not be, nor need be, any policy contradiction between upholding and safeguarding an open, non-discriminatory and equitable multilateral trading system on the one hand, and acting for the protection of the environment, and the promotion of sustainable development on the other.”).

\textsuperscript{50} See, for example, World Trade Organization, Report of the Appellate Body, European Communities—Conditions for the Granting of Tariff Preferences to Developing Countries, WTO Doc No WT/DS246/AB/R (Apr 7, 2004) (“EC-Tariff Preferences”).
and relevance of sustainable development were ultimately decided against the party invoking sustainability to justify the contested trade measure.\textsuperscript{51}

The concept of sustainable development is not foreign to the GATT. Prior to the establishment of the WTO, the GATT was largely viewed as hostile to the concept of sustainable development.\textsuperscript{52} Until 1994, the provisions of the GATT that could have given substantial consideration to sustainability concerns in trade disputes were construed narrowly. Thus, the part of the GATT that potentially supported sustainability was wholly dominated by competing considerations and would only have an effect in the most extreme circumstances.\textsuperscript{53} However, the discussions that culminated in the establishment of the WTO and the text of the GATT 1994 erased many doubts that sustainable development at least partially informed the purpose of the WTO and the provisions of the GATT. The Preamble of the GATT explicitly states that an objective of the WTO is to

expand[ ] the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.\textsuperscript{54}

Article XX provides the most obvious textual hook for advocates of sustainable development. Article XX states, in relevant part:

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: . . .

(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.\textsuperscript{55}


\textsuperscript{53} Id.

\textsuperscript{54} Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Legal Instruments—Results of the Uruguay Round (1994), preamble, 33 ILM 1143, 1144 ("Final Act").

\textsuperscript{55} General Agreement on Tariffs and Trade (1947), art XX, 61 Stat A-11, TIAS 1700, 55 UN Treaty Serv 194 (1947).
Read in tandem with the Preamble, Article XX should provide a strong textual basis to defend WTO members whose efforts at ensuring sustainable development are being challenged as illegal attempts to restrict free trade. Article XX should be implicated under most common understandings of sustainable development.\(^5\)\(^6\)\(^7\) WTO jurisprudence, however, has resisted such a reading of Article XX. WTO case law suggests that while sustainability remains a factor to consider, prohibiting measures that have the slightest tinge of protectionism continues to be the primary concern.

The best starting point for understanding the strain of WTO jurisprudence most likely to affect trade restrictions mandating sustainability for biofuels is the GATT Panel’s report in *Spain—Tariff Treatment of Unroasted Coffee* ("Spanish Coffee"), which laid the foundation for WTO jurisprudence concerning product discrimination.\(^5\)\(^7\) In that case, Spain had introduced tariff rates that differentiated between different kinds of unroasted, non-decaffeinated coffee beans. Brazil complained that Spain’s tariff schedule violated the GATT by treating like products differently.\(^5\)\(^8\) Spain argued that it was not treating like products differently since application of the various tariff rates depended on, among other factors, the methods by which the coffee beans were cultivated.\(^5\)\(^9\) Ultimately, the GATT Panel sided with Brazil. Though the Panel did not find that discrimination based on production method was per se violative of the Most Favored Nation ("MFN") clause, in the case at hand, discrimination based on production methods was unjustified because the variously produced coffee beans were blended together before being sold to end users.\(^5\)\(^0\) In essence, if consumers found production methods to be irrelevant in their consumption decisions, then countries were unjustified in basing discriminatory measures on production methods.

While the principles set forth in *Spanish Coffee* appear to suggest that discriminating between biofuels produced using sustainable and unsustainable methods is prohibited under the GATT, the Panel’s decision left some room to argue otherwise. In ruling against Spain, the Panel noted that production methods were largely irrelevant in that case, because ultimately the coffee beans produced by different methods were blended and therefore consumers could

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\(^5\) For a common definition of sustainable development, see World Commission on Environment and Development, *Our Common Future* 8 (Oxford 1987) (stating that sustainable development is development that "meets the needs of the present without compromising the ability of future generations to meet their own needs.").


\(^7\) Id at 3.1–3.2.

\(^8\) Id at 3.6–3.7.

\(^9\) Id at 4.6–4.7.
not distinguish between the different types of coffee beans.\textsuperscript{61} Thus, consumer choice seems to be a relevant factor in determining whether a tariff schedule that treats seemingly like products differently violates the GATT. If production methods are relevant to consumer choice, then discrimination based on production method might be acceptable. In the case of biofuels, it may be important to consumers that biofuels are produced in a sustainable manner. Even under this theory, however, unsustainably produced biofuels could not be unilaterally barred from a market if domestically produced biofuels were not subject to similar requirements of sustainability.\textsuperscript{62}

Although \textit{Spanish Coffee} provides helpful guidance, the case’s application to sustainable biofuels may be limited because \textit{Spanish Coffee} did not involve issues of environmental preservation and sustainable development. In this respect, the GATT Panel’s report in \textit{United States—Restrictions on Import of Tuna (“Tuna-Dolphin”)} may prove more useful.\textsuperscript{63} \textit{Tuna-Dolphin} remains the only instance in which a GATT Panel has ruled on unilateral measures applied by one party to protect the health of living organisms within another party’s territory by relying on Article XX(b).\textsuperscript{64} In the dispute, the European Community challenged trade restrictions imposed by the United States Marine Mammal Protection Act, which prohibited US imports of foreign tuna caught without using dolphin-safe techniques.\textsuperscript{65} Ultimately, the Panel ruled against the US, holding that while a measure intended to protect animal life or health could be acceptable under Article XX(b), such a measure could not be imposed unilaterally or by means reaching beyond US territory and into the territory of another country without violating the GATT.\textsuperscript{66}

Although \textit{Tuna-Dolphin} suggests that sustainability issues may not provide much cover for instituting tariffs aimed at discouraging unsustainable biofuel production, the more recent decision in \textit{United States—Import Prohibition of Certain Shrimp and Shrimp Products (“Shrimp-Turtle”)} suggests that WTO jurisprudence may be more amenable to considerations of sustainable development. In the dispute, a group of countries including Thailand and Malaysia challenged the US

\textsuperscript{61} Id at 3.12.
\textsuperscript{63} \textit{United States—Restrictions on Imports of Tuna, GATT BISD DS29/R (June 16, 1994) (“Tuna-Dolphin”)}.
\textsuperscript{64} See World Trade Organization, \textit{Note by the Secretariat, Revision, Committee on Trade and Environment, GATT/WTO Dispute Settlement Practice Relating to Article XX, GATT ¶¶ 46(b), (d), and (g), WTO Doc No WT/CTE/W/53/Rev 1 (Oct 26, 1998)}.
\textsuperscript{65} See \textit{Tuna-Dolphin at ¶¶ 5.2–5.5} (cited in note 63).
\textsuperscript{66} Id at ¶¶ 5.1, 5.5, 5.26, 5.38.
prohibition on imports of shrimp caught without an American-issued license. The license mandated the use of technology designed to avoid the inadvertent capture of endangered sea turtles, and the US argued that such a ban was justifiable under Article XX(g). Ultimately, the Appellate Body invalidated the US measure, but not necessarily because of its unilateral nature. As the Appellate Body noted, “conditioning access to a Member’s domestic market on whether exporting Members comply with, or adopt, a policy or policies unilaterally prescribed by the importing Member may ... be a common aspect of measures falling [under] ... exceptions (a) to (j) of Article XX.” More precisely, the Appellate Body approved of unilateral sanctions under Article XX(g) but circumscribed their use depending on the nature of the pursued objective. The problem with the US measure was not that it was unilateral, but that it was applied in an arbitrarily discriminatory way. Nonetheless, it is critical to note that no WTO Panel or Appellate Body has explicitly permitted coercive embargoes.

Taken together, the Tuna-Dolphin and Shrimp-Turtle cases suggest that unilateral measures aimed at ensuring sustainability in biofuel production may be difficult to justify under Article XX. Tuna-Dolphin took a tough stance against trade measures that conditioned market access to the importing country on changes in the exporting country’s domestic law. Although Shrimp-Turtle explicitly approves of the use of unilateral trade restrictions, the circumstances under which such measures can withstand the rigors of Article XX are quite limited. Indeed, the Appellate Body in Shrimp-Turtle disapproved of the US’s licensing scheme because the Appellate Body believed that the measure was not “necessary” under the circumstances. Furthermore, although WTO case law suggests that environmentally-oriented measures imposed under the aegis of Article XX might be more permissible if such measures sought to protect human life rather than just animal life, the anti-protectionist bent of WTO jurisprudence looks suspiciously upon any unilateral actions.

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67 Shrimp-Turtle at ¶ 1, 5–6 (cited in note 51).
68 Id at ¶ 8.
69 Id at ¶ 121.
70 Id at ¶¶ 153, 186.
71 Id at ¶¶ 181–84.
72 Id at ¶ 121.
73 Id at ¶ 161–66.
74 See World Trade Organization, Report of the Appellate Body, European Communities—Measures Affecting Asbestos and Asbestos-Containing Products, ¶ 172 WTO Doc No WT/DS135/AB/R (Mar 12, 2001). Note, however, that the measures involved in this case did not have any extraterritorially coercive effects.
On the whole, justifying unilateral discrimination against unsustainably produced biofuels under Article I or Article XX does not appear promising. In spite of statements suggesting that the WTO dispute mechanism might view such measures as permissible under current WTO rules, existing precedent indicates that unilateral measures aimed at ensuring sustainable biofuel production and trade will not likely be viewed favorably. Although WTO jurisprudence appears to have adopted a more friendly posture towards issues of sustainable development, concerns over disguised protectionism and extraterritorial coercion present a substantial obstacle to efforts aimed at ensuring sustainable biofuel production through unilateral trade measures.

IV. A FRAMEWORK FOR LEGAL DISCRIMINATION AGAINST UNSUSTAINABLY PRODUCED BIOFUELS

A. THE GSP AND THE WTO: PERMISSIBLE DISCRIMINATION

The GSP provides a framework through which developed countries can promote economic development in less prosperous countries. In 1964, the United Nations Conference for Trade and Development ("UNCTAD") was created as a permanent organ of the UN to address the trade-related issues of developing countries. At the time, developing countries were concerned that the then-existing GATT regime inadequately addressed the trade gap between developing countries and developed countries caused by less demand for primary products—the main exports of developing countries—than industrialized products—the main exports of developed countries. To address this problem, Raul Presbisch, the first Secretary General of UNCTAD, advocated for a system of preferences that allowed industrialized countries to impose lower tariffs on and grant other trade benefits to the industrialized products of developing countries without requiring reciprocal concessions. In time, this proposal became the GSP.

In the context of WTO rules, the GSP finds authorization through the "Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Developing Countries" ("Enabling Clause"), which was initially adopted as a temporary measure in 1971 and later permanently adopted

In 1979.\textsuperscript{78} In 1994, the Enabling Clause became an integral part of the GATT 1994.\textsuperscript{79} By waiving compliance with the MFN Clause,\textsuperscript{80} the Enabling Clause allows WTO member states to adopt special and differential treatment—including a reduction of tariffs to below MFN rates—toward developing countries without violating WTO rules.

In addition, the GSP may allow developed nations to condition the receipt of benefits under the GSP on the fulfillment of certain conditions. For example, the US long denied GSP benefits to communist countries.\textsuperscript{81} This framework can likewise apply to biofuel production. More specifically, the GSP scheme adopted by the European Community and applied to the tropical timber trade provides a model for ensuring sustainable biofuel production in developing countries. Under the EU GSP, timber that has been certified as sustainable through the International Timber Trade Organization may be eligible for tariff preferences.\textsuperscript{82}

\textbf{B. THE GSP AND BIOFUELS: AN OPPORTUNITY FOR UNILATERAL ACTION}

Following the model provided by the EU GSP as applied to tropical timber, GSP tariff preferences could be granted to sustainably-produced biofuel, while MFN status attaches to unsustainably-produced biofuel. The net result would be a significant incentive to adopt sustainable production methods, thereby avoiding the kind of environmental degradation described above in Section II.

Such positive conditionality, however, is not beyond challenge under WTO rules. In the \textit{European Communities—Conditions for the Granting of Tariff Preferences to Developing Countries ("EC-Tariff Preferences")} case, India challenged the EU GSP scheme, arguing that the condition attached to receiving preferences—


\textsuperscript{79} See GATT, art I(b)(iv) (cited in note 55).

\textsuperscript{80} World Trade Organization, \textit{Decision on Differential and More Favourable Treatment, Reciprocity and Fuller Participation of Development Countries}, ¶ 3(b) WTO Doc No L/4903 (Nov 28, 1979). Under the MFN Clause, the general rule is that products from one WTO member state cannot be treated differently from similar products from other WTO member states.


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combating illicit drug production and trafficking (Drug Arrangements)—conflicted with GATT article I:1. Under the Drug Arrangements, twelve GSP beneficiary countries were granted greater tariff reductions than those offered to other EU GSP beneficiaries. India, an EU GSP beneficiary that was not a designated country under the Drug Arrangements, argued that such disparate treatment was a violation of the EU’s WTO obligations. India argued that although GATT Article I:1 allows developed countries to treat developing countries differently from developed countries, it does not allow developed countries to discriminate among developing countries under the GSP. Ultimately, the WTO panel agreed with India. Upon appeal, however, the Appellate Body reversed the Panel’s decision, holding instead that the Enabling Clause does not require developed countries to offer GSP preferences to all developing countries. In fact, the Clause permits developed countries to treat developing countries within its GSP system differently, provided that “similarly-situated” GSP beneficiaries are offered the same treatment.

While EC-Tariff Preferences does not rule out biofuel differentiation through the GSP framework, any conditions applied through the GSP must adhere closely to the standard set out in EC-Tariff Preferences:

In granting such differential tariff treatment, however, preference-granting countries are required, by virtue of the term "non-discriminatory", to ensure that identical treatment is available to all similarly-situated GSP beneficiaries, that is, to all GSP beneficiaries that have the "development, financial and trade needs" to which the treatment in question is intended to respond.

Thus, despite potential complications raised by EC-Tariff Preferences, the decision does provide an opening for using the GSP to encourage sustainable biofuel production.

To the extent that developed countries explicitly structure their conditions on the sustainable management of rainforests and peatlands, tariff preferences for sustainably produced biofuels may pass WTO scrutiny. In EC-Tariff Preferences, the Appellate Body noted that sustainable development was an objective to be pursued by the WTO and its member states. The Appellate

\[83\] EC-Tariff Preferences at ¶ 2 (cited in note 50).
\[84\] Id at ¶¶ 2–3.
\[85\] Id at ¶ 120.
\[86\] Id at ¶ 121.
\[87\] Id at ¶ 55.
\[88\] Id at ¶¶ 70–71.
\[89\] Id at ¶ 76.
\[90\] Id at ¶¶ 37–38.
Body further stated that there must be a “sufficient nexus” between the preferential treatment granted by compliance with the condition and the likelihood that the action demanded by the condition alleviate the relevant “development, financial [or] trade need.”\textsuperscript{91} The Appellate Body also required that an objective standard be used to determine the existence of any development need. Such an objective standard, in turn, could be provided by “[b]road-based recognition of a particular need, set out in the WTO Agreement or in multilateral instruments adopted by international organizations.”\textsuperscript{92} Lastly, the Appellate Body required the existence of “objective criteria” that would allow similarly affected developing countries to be included in the group of developing countries that receive the tariff preference.\textsuperscript{93}

Under this framework, the existence of international agreements aimed at protecting tropical rainforests could serve as evidence of the development need for preventing the destruction of rainforests, peatlands, and other environmentally-sensitive areas due to biofuel production.\textsuperscript{94} Moreover, the requirements for membership in existing treaties would provide a model for the objective criteria that allow GSP beneficiaries to receive preferential tariffs based on the production of sustainable biofuels. Therefore, if tariff preferences are granted to sustainably produced biofuel specifically to protect environmentally-sensitive areas, such preferences should pass the test put forth in \textit{EC-Tariff Preferences}.

\textbf{V. CONCLUSION}

Trade in biofuels will likely increase significantly in the coming decades. Today, it is nearly universally accepted that global warming is real and should be mitigated. A strong global consensus advocates that reductions in greenhouse gases are a crucial step in combating rising global temperatures. For many, biofuels produced using environmentally friendly methods provide a viable solution in the effort to reduce greenhouse gases, particularly in the face of stubbornly high fossil fuel prices. Though speculation over the precise volume of biofuel trade varies widely, even by conservative estimates, biofuel trade will be sizable enough to meaningfully implicate international trade law.

Despite the apparently hostile posture of existing WTO case law to the use of unilateral measures aimed at ensuring sustainable development, discrimination against unsustainably produced ethanol is possible under existing WTO rules.

\begin{itemize}
\item\textsuperscript{91} Id at ¶ 66.
\item\textsuperscript{92} Id.
\item\textsuperscript{93} Id at ¶¶ 73–74.
\item\textsuperscript{94} See, for example, International Tropical Timber Agreement (1994), 33 ILM 1016 (1994).
\end{itemize}
While justifying such unilateral measures under GATT Article XX appears to be a difficult task, WTO jurisprudence provides a slight opening for such a tactic. Though the WTO must continue to be vigilant against protectionist measures made in the name of environmental preservation, rulings that give short shrift to genuine efforts aimed at preventing environmental catastrophe potentially undermine the WTO’s legitimacy. Thus, there is reason to believe that WTO adjudicators may well follow through on the stated commitment of WTO leaders to sustainable development. Ultimately, however, imposing sustainable production requirements through the GSP may be the most promising option for ensuring the environmentally beneficial promise of biofuels. The current practical realities of ethanol production and consumption suggest that—at least for the short term—such a solution could meaningfully contribute to a reduction in greenhouse gases, and thereby ameliorate global warming.