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Trade Preferences and Environmental Goods

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SUMMARY

For the World Trade Organization (WTO), the most important development in a decade related to trade–environment linkages is the agreement to liberalize commerce in environmental goods and services. If properly executed, the agreement will increase the availability of "green" goods in global markets and break the North–South deadlock that has paralyzed discussions on the trade regime governing such goods.

However, WTO members appear to be limiting negotiations to capital-intensive environmental technologies and engineering services, for which developed countries enjoy a comparative advantage. These goods account for the largest part of the US$525 billion spent annually on the environmental sector worldwide. However, they are neither the sole nor most visible part of environmental markets. Green consumer goods—from energy-efficient lighting to recycled products—together with resource-based products, including organic produce and sustainable forest and fisheries products, need to come within the purview of WTO negotiations.

A New Mandate

The most important outcome of the November 2001 Doha Ministerial meeting of the World Trade Organization (WTO) was the commitment to reduce or eliminate "tariffs and non-tariff barriers to environmental goods and services" (Doha Ministerial Declaration). This mandate to liberalize trade in environmental goods and services represents a significant opportunity for the WTO to break the logjam of trade–environment issues by crafting liberalization schedules that support environmental objectives in several ways.

First, liberalization could increase the availability of green goods in global markets as tariffs and other barriers affecting such goods were lowered or eliminated. In some countries, current tariffs on environmental technologies exceed 30 percent, thus presenting an opportunity to lower prices through tariff reductions.

Liberalization of trade in environmental goods could help break the deadlock between industrialized and developing countries over issues of trade and the environment.

Second, a more rapid liberalization of trade in environmental goods could create a modest, short-term price preference for these goods relative to their mainstream counterparts. At the very least it would help reduce the price wedge between green and nongreen products. The Doha mandate suggests that green goods and services will benefit more from early and accelerated liberalization schedules than from across-the-board commitments. In many instances, green goods have a current price premium of as much as 10 to 15 percent relative to their standard counterparts. This price gap could be narrowed, however modestly, through liberalization.

Third, the WTO can send a powerful policy and market signal to consumers and producers about the importance of environmental goods. Symbolically, it can affirm that the multilateral trading system supports environmental goals in a way that produces concrete results and is consistent with the WTO mandate to reduce and eliminate barriers to trade.

Fourth, and perhaps most important, liberalization of trade in environmental goods could help break the deadlock between industrialized and developing countries over issues of trade and the environment. For more than a decade, proposals to integrate environmental measures into the trading system have been viewed with deep suspicion by many developing countries, as opening the door to

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protectionism. The Doha mandate on environmental goods can, at the very least, temper this suspicion by building on export areas of interest to developing countries.

These goals are within reach. But to achieve them, WTO members need to proceed with a plan that accurately reflects the structure and characteristics of the environmental sector as it is today. While this is a self-evident prerequisite to any negotiation, there are early signals that countries are limiting the coverage of negotiations. Rather than a comprehensive product-coverage approach —a priority of the Doha declaration within the broader goal of market access—modalities for negotiations are leaning toward selective coverage of capital technologies and related large-scale engineering services for which industrialized countries have a strong export advantage.

Action by the WTO that would result in lower prices for energy-efficient consumer goods would contribute measurably to progress toward climate policy objectives.

Clearly, pollution abatement technologies, as well as those used to provide potable water and to treat wastewater, are essential to a viable market in environmental goods. Tariffs applied to such technologies by industrialized countries are already low, often less than 3 percent. By contrast, some developing countries apply most favored nation (MFN) tariffs to environmental technologies at much higher levels, often above 20 percent. Lowering tariffs could result in modest price reductions for such technologies, thus contributing to important welfare gains such as cleaner air and water.

If for trade purposes the ambit of environmental goods is limited to abatement technologies and related treatment services, then the Doha mandate will require little reform by developed countries, and comparatively greater adjustments by developing countries. However, this would send a signal that the sole development agenda endorsed by the WTO for green goods entails a focus on end-of-pipe technologies and large-scale engineering projects. At best, that is a signal frozen in time. During the past two decades, leading companies large and small have shifted strategies away from tackling pollution only after it has been generated, to minimizing pollution and waste *before* they occur. A growing list of companies is saving money, increasing efficiency, exceeding minimum standards, and expanding markets by adopting more environmentally sensitive production and management practices.

Limiting WTO product coverage sends a further signal that developing countries have no comparative advantage in any environmental market—an implication as ludicrous as it is divisive. Finally, it ignores the broad support consumer-based green goods enjoy in many markets. In short, the WTO risks supporting a supply-driven agenda while ignoring developments in actual environmental markets.

While some references are made to environmental services, the focus of this policy brief is on goods only. Legitimate concerns have been raised about the implications of accelerated liberalization in environmental services. Liberalization of water services, in particular, has raised questions about whether multilateral support for liberalization can exert indirect pressure at the domestic level in favor of the restructuring of water services. (In light of the sensitivity of environmental services issues, a separate working paper on this topic is being prepared for publication by the Carnegie Endowment's Trade and Equity program in April 2003.)

Green Markets

By almost any count, the environmental sector is large and expanding. Global expenditures on the environment total about US$525 billion per year. They are expected to surpass US$600 billion by 2005.

Annual U.S. expenditures on the environment are US$170 billion, with the largest items being solid waste management (US$31 billion), water treatment works (US$25 billion), water equipment (US$13 billion), and air pollution abatement equipment (US$11 billion). The European Union estimates that its environmental "industry" generates 54 billion euros in economic activity per year, employing more than 2 million people. (Roughly 1.5 million work in pollution management, and another 650,000 in resource management.) The Canadian environmental sector is estimated to employ 220,000 people and generate annual revenues of CAD$12 billion.

As large as these estimates are, they very likely understate the actual size of green markets. Most estimates track only big-ticket environmental items such as water treatment and pollution abatement technologies. Although these categories represent the largest portion of environmental expenditures, green goods extend well beyond capital-intensive activities to embrace a broad range of consumer products.

Unlike the market for large-scale environmental technologies, which for the most part exists in response to a regulation-driven agenda, consumer-level environmental markets are essentially demand driven, mirroring a bottom-up approach to environmental management. For instance, the value of managed investment funds that now use one or more social screens—of which environmental criteria are among the most prominent—increased from US$1.49 trillion in 1999 to more than US$2 trillion in 2001. Nearly one in every eight dollars under professional management in the United States today was not invested until the equity or other instrument underwent social screening of some kind.

The movement toward "socially responsible investing" illustrates the remarkable changes underway in many environmental markets. But for consumers, probably the most familiar kinds of green goods are paper, plastic ware, and other basic, everyday products made from recycled materials. However, since recycling was introduced, the diversity of green products available in the marketplace has expanded dramatically. Examples include energy-efficient lighting fixtures, washing machines, televisions, and audio equipment, as well as hundreds of other "green" appliances; low-toxicity or nontoxic paints; sustainably harvested wood products; construction materials such as flooring made from recycled plastic; zero-emission and hybrid technology automobiles; methane and other "biofuels" derived from sources such as industrial waste; and renewable electricity generated by solar and wind technologies. The intersection of environmental goals and farm produce also continues to grow in significance: Produce that is harvested, transported, and marketed in ways considered environmentally sensitive represents one of the fastest-growing segments of the food market in many countries. The reason green consumer products are now so diverse is that they can substitute in many instances for common products whose production or use is not necessarily environmentally sensitive. In most cases, criteria to describe environmental products use relative, as opposed to absolute, benchmarks. To take lighting as an example, an energy-efficient light bulb might consume as much as 75 percent less energy and last 15 times longer than its standard, incandescent equivalent.

Since the environmental benefits of energy-efficient consumer goods are substantial, this is one area the WTO should look to in following through on the Doha decision. In most industrialized and emerging economies, household electrical appliances account for roughly one-quarter or more of total residential energy consumption, which in turn accounts for one-third of total electricity demand. Electricity generation remains by far the single largest source of air pollution in many countries. For instance, in the United States, 70 percent of

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emissions of sulfur dioxide and 25 percent of emissions of nitrogen oxide (the main ingredients in acid rain), as well as 35 percent of emissions of carbon dioxide (the main greenhouse gas causing climate change), result from electric power generation. The U.S. Environmental Protection Agency estimates that its voluntary labeling program for energy efficiency—called Energy Star—has directly prevented 38 million tons of greenhouse gas emissions and 140,000 tons of nitrogen oxide emissions. Similarly, Danish researchers have shown that if energy-efficient computers that are already available were used in Europe, the reduction in air pollution would be tantamount to the displacement of 166,000 tons of greenhouse gases and 874 tons of sulfur dioxide emissions. Several countries that have ratified the Kyoto Protocol, notably Japan, expect to achieve their emission-reduction targets in large measure through expanded use of energy-efficient products. Recently, the *Wall Street Journal* reported that Dupont—in coordination with countries that are benefiting from new international "carbon markets"—is considering bundling greenhouse gas emission credits with products as a means of attracting new customers and generating revenues from international markets for emission credits. Demand in developing countries—including China, India, and Mexico—for such products is also on the rise. Action by the WTO that would result in lower prices for energy-efficient consumer goods would contribute measurably to progress toward climate policy objectives.

The importance of efficiency performance standards for trade is reflected in the notifications submitted under the WTO Agreement on Technical Barriers to Trade (TBT). During the past decade, environmentally related notifications were the largest category of TBT notifications: 10 to 15 percent of all such notifications, according to the WTO Secretariat. Within the environmental category, the largest subcategory of notifications was product performance standards related to energy efficiency.

Although tariffs are generally low for most energy-efficient products, there is nevertheless room for further tariff reduction. For example, MFN tariffs on electric water heaters were levied in 2001 at rates ranging from 2.7 percent, by the European Union, to as much as 35 percent, by China.

COMPARATIVE TARIFF RATES ON ELECTRIC WATER HEATERS*

Country	Most favored nation tariff (2001)
Japan	*None*
European Union	*2.7%*
Canada	*4.2%*
Australia	*5.0%*
Mexico	*8.0%*
Chile	*8.0%*
Korea	*8.0%*
Peru	*12.0%*
China	*10.0–35.0%*

* Harmonized System code 8516.

Source: United Nations Conference on Trade and Development, TRAINS Database (2002).

Among the most thorough exercises to date in classifying the environmental sector was one undertaken by the Organization for Economic Cooperation and Development (OECD) and the Statistical Office of the European Union. A 1999 joint publication of the OECD and the Statistical Office, *Environmental Goods and Services Industry*, identifies the main categories of goods and services. This document should be a useful reference for WTO negotiators in implementing the environmental goods mandate of the November 2001 Doha Ministerial Declaration.

ENVIRONMENTAL GOODS AND SERVICES INDUSTRY CLASSIFICATIONS

Pollution Management

Air pollution control
Wastewater management
Solid waste management
Remediation/cleanup, soil and water
Noise and vibration equipment
Environmental monitoring/analysis

Cleaner technologies and products

Cleaner technologies
Cleaner/resource-efficient products

Resource management

Indoor air pollution
Recycled materials
Heat/energy saving and equipment
Sustainable forestry
Potable water
Renewable energy plant
Sustainable agriculture and fisheries
Eco-tourism

Source: Organization for Economic Cooperation and Development and European Union Statistical Office, *Environmental Goods and Services Industry*. Paris (1999).

Work by the OECD and others has been important in the effort to encourage green product consumption. However, the emphasis that classification efforts have placed on capital goods begs the question of benefit to developing countries in terms of export interest.

Green Goods, Developing Countries, and Market Access

With the Doha Development Round, several initiatives—including capacity building—have been pursued by the WTO Secretariat. As welcome as technical assistance and capacity-building initiatives are, increasing market access for developing countries is the acid test of whether progress has been made. Market access objectives enunciated at Doha commit governments to reducing or eliminating tariffs, including tariff peaks, high tariffs, and tariff escalation, as well as nontariff barriers, "in particular on products of *export interest to developing countries*" (Doha Ministerial Declaration, emphasis added). Given that the WTO's membership consists overwhelmingly of developing countries, work should concentrate on those areas where the most egregious access distortions affecting developing-country exports persist: agriculture, textiles, and apparel.

Agriculture is a useful starting point, particularly given the importance of that sector in many developing countries. Increasingly, traditional low-impact community farming comes under the sustainability rubric, precisely because it is characterized by an absence of the kinds of capital inputs (such as pesticides, agrochemicals, and genetically modified seed) that small farmers in most low-income countries can ill afford to purchase. There is an opportunity, therefore, to assist small farmers in developing countries by extending the scope of the Doha environmental goods agenda to cover farm produce that meets sustainable agriculture criteria.

Sustainable agriculture includes a broad range of practices, such as reliance on heterogeneous organic and biological inputs to improve production, rain-fed irrigation, dry-land farming with a low ratio of irrigated land to crop output, crop rotation, and integrated pest management.

One category of sustainable agriculture that already has well-defined international standards is organic foods. The current global market for organic foods is US$17.5 billion a year; with annual growth rates of up to 30 percent, this continues to be among the fastest-growing segments of the food sector. After examining classification issues related to organic foods, the United Nations Statistical Commission noted in 2002 that organic farming "should be considered as a different agricultural activity from farming using chemicals."

All international bodies—including, for instance, the International Federation of Organic Agriculture Movements—that provide definitions of organic foods stress the close relationship between organic farm systems and the environment or ecosystems. The CODEX Alimentarius Commission—which is cited in the WTO Agreement on Sanitary and Phyotosanitary Measures as an example of a relevant international standard-setting body—defines organic agriculture in its voluntary guidelines as "one among the broad spectrum of methodologies which are supportive of the environment. Organic production systems are based on specific and precise standards of production which aim at achieving optimal agro-ecosystems which are socially, ecologically and economically sustainable."

Of the growing list of organic products, coffee is perhaps the most useful example of a commodity that could benefit from liberalization. Grown almost exclusively in developing countries, coffee surpasses all other goods except petroleum in value as a trade commodity, generating US$11 billion to $15 billion in commerce per year. By definition, most small-scale coffee farms in developing countries produce sustainable coffee. For instance, the International Trade Center estimates that more than 90 percent of all coffee grown in Ethiopia is organic, even though no formal certification system is in place. Similarly, the North American Commission for Environmental Cooperation estimates that three-quarters of all coffee produced in Mexico—representing the work of 450,000 small-scale farmers—comes under the sustainable agriculture rubric.

Changes in land use that result in the loss of small-scale, community-based farming continue to pose one of the chief threats to biodiversity. By making their output more accessible to consumers, and at lower relative prices, the WTO could help small-scale farmers sell sustainable organic coffee, and in the process help preserve the old-growth

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forests in which much sustainable produce, such as coffee, is grown.

The Classification Challenge

Guidance on the designation of products for environmental negotiation is provided in the Doha Ministerial Declaration: "[P]roduct coverage shall be comprehensive and without a priori exclusions." But as straightforward as this directive may be, the practical and administrative challenges involved in classifying environmental products in a sensible way for trade negotiators and customs officials are considerable.

Customs codes for goods and services are the backbone of the international trading system. Without these codes, national authorities are unable to track trade flows, collect tariff duties, or enter into international trade negotiations toward reducing tariff and nontariff barriers. Every state develops and maintains its own national customs codes, which it updates and shares with industries and trading partners. To coordinate national initiatives on customs codes, an international customs system known as the Harmonized System (HS) is maintained by the World Customs Organization.

At regular intervals, the HS codes are updated to ensure that new products—from personal digital assistants to prescription drugs—are classified. Thousands of these six-digit codes are updated on a regular basis. In January 2002, the World Customs Organization released revised HS codes, including for the first time stand-alone criteria covering environmental and social issues. (The actual codes listed under environmental criteria are limited to wastes and chemicals specified under certain international environmental agreements, notably the Basel Convention and the Montreal Protocol. However, a welcome precedent has been set by the World Customs Organization in acknowledging the importance of environmentally related HS customs codes.)

The work involved in revisiting existing customs codes in order to differentiate products based on their environmental characteristics is labor intensive and politically sensitive. Clearly, the most sensitive issue is whether environment-related product labeling and certification will play any role in helping customs authorities differentiate green from mainstream products.

Green Labels

Since 1991, green labels have been a source of concern for developing countries and small industrialized countries in the WTO, which suspect that labels could condition market access to the detriment of these countries' exporters. That sentiment persists despite the fact that not a single case has ever been brought before the WTO involving discriminatory treatment between a labeled product and a nonlabeled product.

It is widely accepted that environmental labels are "messy." Dozens of labeling schemes, using thousands of criteria, are applied to similar products, creating consumer confusion, mistrust, and labeling fatigue. Green labels are bottom-up, demand-driven, market-based tools, often initiated and administered by civil society in what has become one of the most innovative experiments in modern governance. The purpose of these labels is simple: to harness the power of markets in support of environmental objectives. That green labels are messy is clear. But then, new markets almost always are, at least in their early stages. Coffee again provides a good example. As in other product areas,

there is no single, international definition of sustainably produced coffee. Instead, labeling and certification schemes continue to proliferate, overlapping with both organic and "fair trade" certification schemes. That said, labels enable producers to benefit from price premiums that consumers evidently are willing to pay. Estimates for Mexico done in 2001 by Daniele Giovannucci suggest that the price premium for sustainable coffee is US$0.52 to US$0.62 per pound. Given the current 50 year low in world coffee prices, any price premium that helps small farmers while protecting fragile ecosystems and delivering a product of high quality is welcome. A complementary effort by the WTO to reduce all tariffs and tariff quotas affecting trade in sustainable coffee could amplify the price premium small farmers receive.

Sequencing

A final consideration, highlighted by the example of the coffee trade, is the sequence of liberalization efforts. Given the extent of trade and the market distortions that riddle the agricultural sector, it makes little sense to reduce or eliminate domestic supports for sustainable coffee or other green products ahead of across-the-board liberalization that simultaneously affects large-scale, pollution-intensive factory farms. Doing so would have the perverse effect of leaving subsidies in place for unsustainable practices while exposing green goods to full and open competition. A more sensible approach would mirror the standard trade policy of "tariffs first": that is, it would start by reducing or eliminating tariffs and tariff rate quotas.

Conclusion

The Doha mandate on environmental goods has the potential to deliver tangible benefits in support of environmental objectives. Most important, the green goods mandate can build on the more general commitment to market access—one of the foundations of the Doha Development Round agenda—by supporting accelerated liberalization of trade in goods of special interest to developing countries.

However, success in environmental goods negotiations is not possible if countries fail to take account of the inherently dynamic characteristics of environmental markets. Two categories of green goods—consumer products that enjoy support in many developed countries and a growing number of developing countries; and environmental farm, textile, and apparel products from developing countries—apparently are being excluded from initial negotiations. WTO members appear content to limit negotiations on environmental goods to the organization's Non-Agriculture Market Access Committee, and to limit talks on services to work already under way on the General Agreement on Trade in Services. But because of its inherent bias against outputs of developing countries and consumer-based products, this approach is a recipe for failure.

The classification challenges involved in differentiating green consumer goods, agricultural products, and other outputs from their standard counterparts are daunting but hardly insurmountable. The January 2002 revision of the HS customs codes set a precedent by explicitly referring to the importance of environmental and social criteria. It remains unclear whether negotiators regard a comprehensive approach to green goods merely as administratively difficult, or whether the reluctance to follow a comprehensive approach reflects the lingering distrust many counties have of labeling schemes, and the challenges they present to the trading system in modifying notions of "like" products. However, rather than continue to inquire into how labels might hypothetically run afoul of TBT rules, the WTO Committee on Trade and Environment could—with the help of the United Nations Environment Program and others—analyze how labels and certification could provide guidance on implementation of the green goods mandate. ■

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Environment's New Role in U.S. Trade Policy, John Audley. Trade, Equity, and Development Series, no. 3, September 2002.

Reforming Global Trade in Agriculture: A Developing-Country Perspective, Shishir Priyadarshi. Trade, Equity, and Development Series, no. 2, September 2002.

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Sustainable Coffee Survey of the North American Specialty Coffee Industry, Daniele Giovannucci. North American Commission for Environmental Cooperation and Specialty Coffee Association of America, July 2001. Available at **www.cec.org** and **www.scaa.org**.

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