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Trade, Law *and* Development

Vol. 6, No. 1

2014

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The Registrar, National Law University, Jodhpur

ISSN : 0976-2329 | eISSN : 0975-3346

Mark Wu, *Why Developing Countries Won't Negotiate: The Case of the WTO Environmental Goods Agreement*
6(1) TRADE L. & DEV. 93 (2014)

WHY DEVELOPING COUNTRIES WON'T NEGOTIATE:
THE CASE OF THE WTO ENVIRONMENTAL GOODS
AGREEMENT

MARK WU*

In January 2014, the WTO broke the longstanding impasse in trade negotiations over environmental goods. It abandoned a decade-long effort to reach an agreement as part of a comprehensive Doha Round package. Instead, the WTO declared that it would commence new negotiations for a standalone plurilateral agreement. While a quarter of the WTO membership has expressed their intention to participate in these negotiations, very few developing countries have done so. This Article examines the question of why this is the case. The conventional belief is that developing countries have export interests at stake in environmental goods, but are avoiding the talks because of competing desires to preserve high tariff rates to protect domestic industries and/or to express their dissatisfaction with the current mode of negotiations.

This Article proposes an alternative interest-based explanation: Most developing countries stand to gain very little from the talks, as they are currently structured. More important than the countervailing forces emphasized by the conventional explanation is the simple fact that developing countries,

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other than China, simply do not have sufficient interests at stake to join the negotiations.

Drawing on original analyses of recent trade flows in environmental goods from various developing countries, the Article highlights the following: First, very few developing countries have much at stake in terms of exports. Second, among those that do export, many already have reaped significant tariff benefits through negotiations in other fora. Third, developing countries can achieve remaining objectives through free riding. Finally, the predominance of intra-developing country trade minimizes gains from a treaty dominated by advanced economies. Together, these explanations account for why most developing countries have little to gain – contrary to the conventional belief that many have interests at stake.

For those who may find the lack of developing country participation to be troubling, this Article explores several potential options to entice more developing countries to join the negotiations. Overall, the Article suggests that the key to increasing the participation of developing countries will be to expand the scope of the negotiations beyond what is currently on offer, to include other environmental goods, services, and/or non-tariff barriers.

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I. INTRODUCTION

Ever since the Doha Round commenced in November 2001, the World Trade Organization (WTO) has sought to facilitate a trade agreement among its members to lower tariffs and non-tariff barriers for environmental goods and services. In the Doha Ministerial Declaration, WTO members expressed a goal of seeking “the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services.”¹ Liberalizing trade in environmental goods “can help to improve energy efficiency, reduce greenhouse gas emissions and have a positive impact on air quality, water, soil and natural resources conservation.”² Consequently, a successful agreement amounts to “a triple-win for WTO members: a win for the environment, a win for trade and a win for development.”³

However, the lofty rhetoric soon gave way to the cold realities of the negotiations table. In the intervening twelve years, the environmental goods negotiations have become bogged down. WTO members disagree vehemently over core issues such as the scope of what qualifies as an environmental good and how liberalization should proceed. Meanwhile, the environmental stakes are rising. The costs of global climate change are becoming even more alarming than in 2001.

¹ World Trade Organization, Ministerial Declaration of 14 November 2001, WT/MIN(01)/DEC/01, para. 31(iii) [hereinafter Doha Ministerial Declaration].

² World Trade Organization, Activities of the WTO and the Challenge of Climate Change, http://www.wto.org/english/tratop_e/envir_e/climate_challenge_e.htm.

³ *Id.*

As has been the case with much of the Doha Round, the schism between developed and developing countries has contributed to the impasse. In January 2014, a group of WTO members proceeded to break the deadlock. With the WTO's blessing, this group, representing only a quarter of the WTO's membership, announced that it would proceed separately from others in trying to reach agreement. Frustrated with the negotiating deadlock, they were giving up on the ideal of reaching a multilateral consensus-based agreement acceptable to the entire WTO membership. Instead, they decided to proceed plurilaterally, while still under the framework of the WTO.

What this means is that this smaller group of members will try to reach a deal among themselves first to lower tariffs across a broad range of environmental goods. Any deal reached, importantly, will not be a closed, exclusive agreement. Other WTO members outside of this group are also welcome to join. Regardless of whether they choose to do so or not, the lower tariffs will be extended across-the-board to even imports from those WTO members that are not part of the deal.

In the WTO regime, this type of trade agreement – known as a plurilateral trade agreement – falls outside the norm. Most of the WTO's existing treaties are part of a “single undertaking,” meaning that they apply collectively as a single “take-it-or-leave-it” package.⁴ Still, it is not entirely without precedent. The Marrakesh Agreement Establishing the World Trade Organization expressly contemplates the possibility of plurilateral agreements.⁵ However, of the treaties concluded in the Uruguay Round, only four were excluded from the single undertaking.⁶ Of that lot, only two remain applicable today.⁷ In the intervening two decades, WTO members have concluded a handful of other plurilateral agreements, including ones for information technology goods and government procurement.⁸ The emphasis to date remains on the continuation of a single undertaking.

⁴ World Trade Organization, How the Negotiations are Organized, http://www.wto.org/english/tratop_e/dda_e/work_organ_e.htm.

⁵ It notes that Plurilateral Trade Agreements “are also part of [the Marrakesh Agreement Establishing the World Trade Organization] for those Members that have accepted them, and are binding on those Members” but “do not create either obligations or rights for Members that have not accepted them.” Marrakesh Agreement Establishing the World Trade Organization, art. II:3, Apr. 15, 1994, 1876 U.N.T.S. 154 [hereinafter WTO Agreement].

⁶ These are the Agreement on Civil Aircraft, the Agreement on Government Procurement (GPA), the International Dairy Agreement, and the International Bovine Meat Agreement. *See id.*, Annex III.

⁷ The International Dairy Agreement and the International Bovine Meat Agreement were scrapped at the end of 1997.

⁸ WORLD TRADE ORGANIZATION, UNDERSTANDING THE WTO 51-52 (2011).

Yet, as the Doha Round has dragged on, idealism has given way to pragmatism. The desire to do something about climate change, combined with the hope of keeping the Doha negotiating agenda moving in the aftermath of the WTO's Ninth Ministerial meeting in December 2013, provided an opening to reshape the negotiations. No longer would environmental goods be a part of the single undertaking. The new hope is to achieve another standalone plurilateral agreement instead.

In effect, what is happening is that a small group of frustrated WTO members are forming a "coalition of the willing" for liberalizing trade in environmental goods.⁹ By allowing them to proceed, the WTO is endorsing the fragmentation of trade liberalization for this category of products while maintaining its systemic oversight. To wait for everyone to agree to liberalize trade is proving impossible, or so the thinking goes. Better instead to allow those nations that are willing to move faster to go ahead.

Those trumpeting this move herald the fact that the four largest trading powers – the United States, European Union, China, and Japan – have all signed on to this new initiative. Altogether, twelve of the fifteen largest economies are onboard.¹⁰ Besides the four major powers, the other participants include Australia, Canada, Costa Rica, Hong Kong, Korea, New Zealand, Norway, Singapore, Switzerland, and Taiwan (i.e., Chinese Taipei). Together, the participants account for approximately 86 percent of global trade in environmental goods.¹¹

Notable in their absence from the new WTO environmental goods negotiations are the developing countries.¹² Of the 41 WTO members¹³ that are part of the

⁹ This phrase is one that has been used by members of the WTO plurilateral initiative to describe the group. See, e.g., Robin Emmott, *China's Smog Has Silver Lining for Green Trade, Says Denmark*, REUTERS, Feb. 27, 2014.

¹⁰ The three exceptions are Brazil, India, and Russia.

¹¹ Press Release, Office of the United States Trade Representative, Executive Office of the President, USTR Announces Intent to Launch WTO Negotiations on Environmental Goods (Mar. 21, 2014).

¹² As indicated in the subsequent sentence, this Article uses the World Bank classification to determine which WTO members qualify as a developing country. The puzzle that I am concerned with is why most of these countries are not joining the WTO initiative. For more information about that scheme, see *infra* note 105. Note that the WTO allows for self-declaration of developing country status, which means that technically a country such as South Korea could declare that it is still a developing country, though it no longer qualifies as such under the World Bank's classification scheme. This report does not consider these countries to be developing countries nor is the puzzle that it is addressing concerned with such countries.

ongoing negotiations, only two are developing countries, as classified by the World Bank (*i.e.*, China and Costa Rica). The remaining 100+ developing countries that are part of the WTO have all chosen to avoid the negotiations altogether. Those choosing to remain on the outside run the gamut – ranging from small, least-developed countries to large emerging economies.

Why is this? After all, climate change is an issue that is affecting developed and developing countries alike. All sides recognize the potential positive externalities that may result from lower trade barriers for environmental goods. Nor are developing countries necessarily adverse to trade liberalization; some such as Chile and Mexico have been among the most active in pushing for free trade agreements with their trading partners. And over the past decade, many developing countries have been active participants in the WTO's Committee on Trade and the Environment. So why then are they avoiding the WTO's new plurilateral initiative?

One might suppose that this is because very few developing countries have export interests at stake. This is true for a category of less-developed countries (LDCs). But several commentators suggest that a sizeable number of developing countries do have significant interests at stake.¹⁴ Why then have these developing countries chosen to forsake these interests, by remaining on the sidelines of negotiations that could potentially benefit their exporters?

The conventional view offers two explanations: First, some suggest developing countries are engaging in a form of infant industry protection. They are using high tariffs to keep their domestic markets closed to foreign imports, thereby protecting and nurturing their domestic players.¹⁵ Over time, their hope is that this protection

¹³ Note that the 28 WTO members that are part of the EU are negotiating collectively through the European Commission. Therefore, even though a total of 41 WTO members are participating in the negotiations, many accounts refer to only 14.

¹⁴ Robert Hamwey, *Environmental Goods: Identifying Items of Export Interest to Developing Countries*, CTBF Briefing Note Prepared by the UNCTAD Secretariat, July 2004 [hereinafter Hamwey CTBF Briefing Note]; Int'l Centre for Sustainable Trade and Dev., *Environmental Goods: Where Do the Dynamic Trade Opportunities for Developing Countries Lie?*, (Dec., 2005) (by Robert Hamwey) [hereinafter Hamwey ICTSD Report]; Veena Jha, *Environmental Priorities and Trade Policy for Environmental Goods: A Reality Check*, ICTSD Trade and Environment Series Issue Paper No. 7 (2008) at 41.

¹⁵ See Aaron Cosbey, *Green Industrial Policy and the World Trading System*, Entwined Issue Brief No. 17 (Oct. 30, 2013); Int'l Inst. for Sustainable Dev., *Industrial Policy for a Green Economy* (June 2013) (by Johannes Schwarzer); see also Gaëlle Balineau & Jaime de Melo, *Removing Barriers to Trade on Environmental Goods: An Appraisal*, 12 WORLD TRADE REV. 693 (2013) (highlighting the mercantilistic approach of countries in their negotiating proposals whereby they avoided inclusion of highly-protected goods).

will increase the domestic firms' export competitiveness.¹⁶ Governments embracing such an approach wish to maintain policy flexibility; they do not want to tie their hands going forward by signing onto a new plurilateral agreement.

Others have offered a second explanation.¹⁷ They suggest that developing countries, by withholding their participation, are engaging in a form of political protest. Strong tensions exist between developed and developing countries over not only the issue of how the environmental goods negotiations should be conducted, but also the larger issue of how the WTO's flailing Doha Round negotiations should proceed.¹⁸ In short, developing countries dislike the current negotiating modality, which they view as catering to the interests of powerful states. Thus, they withhold their support of any negotiations conducted under its auspices.

Both explanations suggest that some subset of non-participating developing countries do have interests at stake with respect to environmental goods. However, they have decided that other competing interests trump. This Article raises questions about whether this basic assumption is correct. It argues that the conventional account has overemphasized the interests at stake for most developing countries. Instead, the Article seeks to prove that most developing countries have minimal interests at stake, given the current negotiating scope.

To make this case, this Article engages in a series of original analyses of trade flows data of developing countries. This study disaggregates the data not only by country and product, but also by export destination. This level of analysis represents the most fine-grained analysis of recent trade flow data for this set of products. It yields insights concerning how and why developing countries are able to obtain many of their objectives concerning export interests without direct participation in the negotiations themselves.

Specifically, this Article suggests that the absence of developing countries in the new WTO plurilateral initiative can be explained by a series of three interest-related explanations: First, very few have significant export interests in the current

¹⁶ For a general discussion of the dynamics of infant industry protection, see, for example, HA-JOON CHANG, *KICKING AWAY THE LADDER* (2002); Marc Melitz, *When and How Should Infant Industries be Protected*, 66 J. INT'L ECON. 177 (2005); Howard Pack & Kamal Saggi, *Is There a Case for Industrial Policy? A Critical Survey*, 21 WORLD BANK RES. OBS. 267 (2006).

¹⁷ It should be noted that this explanation is compatible with the first. Therefore, they do not function as substitutes.

¹⁸ See Christophe Bellman, *The Bali Agreement: Implications for Development and the WTO*, 5 INT'L DEV. POL'Y 2 (2014); *Differences Remain on Deadlines and Forums for Post-Bali Work on Agriculture*, WORLD TRADE ORGANIZATION, (Sept. 16, 2014), http://www.wto.org/english/news_e/news14_e/agcom_16sep14_e.htm.

list of environmental goods under negotiations. Second, the value of participating in the WTO's plurilateral initiative is further diminished by (a) the presence of ongoing parallel negotiations in another forum, the Asia-Pacific Economic Cooperation (APEC), and (b) liberalization commitments from existing free trade agreements (FTAs). Third, developing countries are largely able to "free ride" off the negotiating efforts to existing participants to achieve their objectives, without having to make tariff liberalization commitments of their own. This is because the WTO requires that its members that sign onto plurilateral agreements extend their benefits on a most-favoured nation (MFN) basis to all other WTO members.

Why does this matter? The conventional explanation suggests that within the political economy of several developing countries, interest groups in favour of joining the talks exist, but are being overshadowed by competing protectionist-oriented interest groups. To increase developing countries' participation, one must simply bolster the power of the favourable interest groups so as to tilt the balance in the domestic political economy in their favour. In contrast, the alternative explanation proposed by this Article suggests that at present, such interest groups do not exist in significant numbers. It argues that as a first step, one must add elements to talks so as to generate such interest groups. It therefore suggests that the pre-existing baseline is much lower and the challenge of enticing developing countries is much greater than the conventional view implies.

Beyond elaborating on an interest-based explanation for why developing countries are absent, the Article examines three other questions that naturally flow from the analysis: The first is whether the absence of developing countries from the negotiations is but merely a temporary phenomenon. When the WTO kicked off negotiations for other plurilateral agreements in the past – most notably, the Information Technology Agreement (ITA) in the mid-1990s – the initial participants were also primarily developed countries. Yet, many developing countries subsequently signed on after the negotiations were completed. A key question is whether the environmental goods agreement will follow a similar pattern. Analyzing the patterns of trade in environmental goods and comparing them versus those of information technology goods in the 1990s, I argue that this is unlikely to be the case. Unless major changes are made to the scope of goods and issues under negotiations, developing countries are likely to stay away.

A second question is whether the absence of most developing countries from the negotiations actually matters. The answer, I suggest, depends on what one considers: (1) the purpose of the WTO environmental goods negotiations to be and (2) the impact any potential agreement will have on countries' behaviour. If the goal is primarily to facilitate trade of such goods, then their absence may not be that worrying. After all, as noted, the existing participants account for nearly six-seventh of all trade in such goods. However, if the goal is to use trade to promote

climate change initiatives, then their absence may be much more alarming. Several of the key countries whose behaviour is likely to affect climate change, including India and Brazil, are not participating in the negotiations. I discuss the extent to which their absence might affect the environmental impact of an eventual WTO agreement.

Finally, I examine a third question of what steps, if any, can be taken to increase the participation of developing countries if one believes that their absence is of concern. I highlight four potential ideas to increase the negotiating stakes for developing countries. As most developing countries do not have immediate export interests at stake, I argue that the WTO must expand the scope of negotiations if it hopes to entice more developing countries to the negotiating table.

The Article is organized as follows: Part II provides a short background overview of why the earlier WTO effort to negotiate a multilateral agreement failed, resulting in an impasse. It then explains why the WTO decided to reconstitute the negotiations as a plurilateral initiative in order to break the multilateral impasse. Part III offers the conventional explanation for why most developing countries, with the exception of China and Costa Rica, are choosing not to join the plurilateral negotiating initiative. Part IV presents the results of my original analysis of trade flows data of developing countries. It sets forth a series of three alternative interest-based explanations for why developing countries have not joined the WTO initiative. Part V then explains why the absence of developing countries is not simply a temporary phenomenon. I discuss how patterns of trade in environmental goods differ from those in information technology, suggesting that the pattern of developing countries joining at a later date, as was the case with the ITA, will not necessarily hold in this instance. Part VI highlights how the failure to include more developing countries will limit the impact of any eventual WTO agreement's environmental impact. Finally, Part VII explores some potential paths forward to entice more developing countries to join a plurilateral agreement. The concluding part then offers perspectives on what the recent experience with environmental goods negotiations may portend for other trade agreements and multilateral negotiations more broadly.

Given the complex negotiating dynamics that have emerged over the past decade, the WTO's recent decision to abandon the multilateral negotiations on environmental goods, and to proceed plurilaterally may be the most realistic path forward. However, careful consideration should be given over how to structure an agreement so that it can attract greater interest from developing countries. The hope is that this Article may contribute to efforts to develop such mechanisms, and in doing so, more fully tap the potential of utilizing trade liberalization to combat climate change for a broader set of nations.

II. THE MULTILATERAL IMPASSE AND THE TURN TOWARD A PLURILATERALISM

A. The Impasse in the Multilateral WTO Negotiations on Environmental Goods and Services

When the Doha Round was launched in 2001, there was hope that the negotiations over an agreement for environmental goods would take the form of a multilateral agreement – *i.e.*, one concluded by and binding on all WTO members. As a result, all WTO members were involved in the negotiations. Despite the broad base of support for a multilateral trade agreement on environmental goods and services, two important points of disagreement were apparent from the outset. First, parties disagreed over the scope of what actually constitutes an environmental good.¹⁹ Second, they also quibbled over the modality through which tariff liberalization should occur.²⁰ WTO members have been unable to resolve these basic questions for over a decade. The impasse over these first-order issues has proven fatal to the hope for any progress.

Why did these two points of disagreement derail the WTO multilateral negotiations? For any trade negotiation whose scope is limited – in this case, confined to the category of “environmental goods” – countries must agree on what falls within versus outside of the scope of the relevant category. This question proves difficult to answer in this context for several reasons.

First, some environmental goods have multiple end-uses or are “dual-use” goods. A particular good may be employed in an environmental project but also in non-environmental contexts. For example, the same pipes that are useful for wastewater treatment may also be useful for transportation of other substances without a connection to an environmental project. At the border, it is difficult to distinguish between imports that will prove environmentally beneficial and those that will have little impact. Some countries have introduced additional 8-digit, 9-digit, or 10-digit tariff classifications in an attempt to identify environmentally-beneficial products.²¹ Nevertheless, for multiple end-use / dual-use products,

¹⁹ *Id.*

²⁰ A modality refers to the approach used to negotiate tariff reductions (e.g., by applying a formula to existing tariff rates, through a process of making requests and offers among parties, etc.). For more on the history of negotiating modalities for tariffs, see ANWARUL HODA, TARIFF NEGOTIATIONS AND RENEGOTIATIONS IN THE GATT AND WTO: PROCEDURES AND PRACTICES 26-44 (2002).

²¹ Tariff classifications beyond the six-digit levels are subject to the discretion of national authorities. For a general discussion of the use of sub-headings as a means to separate environmental goods, see UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT, TRADE AND ENVIRONMENT REVIEW, at 41-2, UNCTAD/DITC/TED/2003/4, U.N. Sales No. E.04.II.D.2 (2004); Org. for Eco. Co-

doing so is a difficult exercise. The technical use of “ex-outs”²² is not likely to be effective in this context.²³

Second, a question as to which goods are “environmental” comes up for consideration. Some goods amount to what the Organization of Economic Cooperation and Development (OECD) has termed “environmentally preferable products” (EPPs).²⁴ For example, should a hybrid car be counted as an environmental good because of its favourable environmental impact? What about low-toxicity paints, energy-efficient appliances, or compostable packages? Should agricultural products produced in a more sustainable way be counted as an environmental good? WTO members disagreed on the relevant criteria for making this designation.²⁵

Third, what factors should count when determining environmental impact? For example, should the environmental impact of transporting a particular good across borders factor into the equation? Suppose certain foreign organic coffee were considered to be more environmentally-friendly than locally-grown coffee. If the carbon footprint of transporting such coffee were included in determining its environmental certification, the organic coffee might be considered an environmental good when exported to some countries but not others, depending on the carbon emissions expended on account of proximity. As a consequence of problems like these, countries could not agree on a common approach to assess environmental impact.

Four different potential approaches surfaced out of this disagreement over how to proceed with the negotiations. This fight over which of these four approaches to

operation and Dev., *Liberalising Trade in “Environmental Goods”: Some Practical Considerations*, COM/ENV/TD(2003)34/FINAL (Feb. 19, 2004) (Ronald Steenblik).

²² An “ex-out” refers to a situation when a WTO member further sub-divides a tariff line into two or more lines through the use of additional digits in the tariff heading and then designates it with an “EX” in its tariff schedule to reflect the fact that it has two or more duties.

²³ UNCTAD, *WTO Negotiations on Environmental Goods: Selected Technical Issues*, 12, UNCTAD/DITC/TED/2011/1 (2011) (by Alexey Vikhlyayev).

²⁴ OECD, *Environmental Goods and Services: The Benefits of Further Global Trade Liberalization*, 11-13, UNCTAD/DITC/TED/2003/4 (2001). UNCTAD has also offered a definition for EPPs as, products which cause significantly less “environmental harm” than other products that serve the same purpose, or products whose production and sale contribute significantly to the preservation of the environment. See UNCTAD Secretariat, *Environmental Preferable Products (EPPs) as a Trade Opportunity for Developing Countries*, 5-7, UNCTAD/COM/70 (Dec. 19, 1995).

²⁵ Int’l Centre for Sustainable Trade and Dev., *Options for Liberalising Trade in Environmental Goods in the Doha Round*, 8, (July 2006) (by Robert Howse & Petrus B. van Bork).

adopt is related to the second question of the modality for the negotiations themselves.

The first potential approach is that of a “list-based” approach. The basic idea is that WTO members would agree on a list of environmental goods for which tariffs would be lowered or eliminated on all or a significant number. However, the subset of countries favouring this approach disagreed over how to structure such lists. The United States initially proposed that there be a “core” list of products used for environmental remediation and pollution prevention and goods that represent clean technologies, and a “complementary” list of products for which there was no widespread agreement.²⁶ WTO members would be required to eliminate tariffs on all core list products, but only a fixed percentage of complementary products.²⁷ As an alternative, China suggested that there be a “common” list of products based on a consensus that they constitute environmental goods. Additionally, there would be a “development” list, born from the common list, for which developing and least-developed countries could make lower levels of tariff reduction commitments.²⁸ Brazil, for its part, proposed a singular list with a strict definitional approach that limits the list to only those goods which fulfil all three of the WTO’s “triple-win” criteria of “trade promotion, environmental improvement, and poverty alleviation.”²⁹

Several WTO members heeded the call of the Chairman of the Committee on Trade and Environment (CTE) Special Session to submit formal proposals for lists.³⁰ Of the various proposals, the most significant is a joint proposal submitted

²⁶ Negotiating Group on Market Access, Committee on Trade and Environment, *Market Access for Non-Agricultural Products: U.S. Contribution on an Environmental Goods Modality*, ¶¶ 4-5, TN/MA/W/18/Add.5 and TN/TE/W/38 (July 7, 2003).

²⁷ *Id.* ¶¶ 6-7.

²⁸ Special Session of the Committee on Trade and Environment, *Statement by China on Environmental Goods at the Committee on Trade and Environment Special Session (CTESS) Meeting of 22 June 2004*, ¶¶ 5-6, TN/TE/W/42 (July 6, 2004) [hereinafter *China Submission TN/TE/W/42*].

²⁹ Special Session of the Committee on Trade and Environment, *Environmental Goods for Development: Submission by Brazil*, ¶ 9, TN/TE/W/59 (July 8, 2005).

³⁰ Examples of lists submitted include those by Canada (TN/TW/W/50 and TN/TW/W/50/Rev.1), Chinese Taipei (TN/TE/W/44), the E.U. (TN/TW/W/47 and TN/TW/W/56), Japan (TN/TE/W/17 and TN/TE/W/75/Add.1), Korea (TN/TE/W/48), New Zealand (TN/TE/W/48), the Philippines (JOB/TE/2), Qatar (TN/TE/W/14 and TN/TE/W/27), Saudi Arabia (JOB(09)/169), Switzerland (TN/TE/W/57), and the United States (TN/TE/W/52). For a comprehensive summary of the tariff lines from the various proposed lists, see Special Session of the Committee on Trade and Environment, *Report by the Chairman, Ambassador Manuel A. J. Teebankee to the Trade Negotiations Committee for the Purpose of the TNC Stocktaking Exercise*, TN/TE/19 (Mar. 22, 2010) [hereinafter 2010 CTESS *Chairman Stocktaking Exercise Report*].

in October 2009 by the so-called “Friends of Environmental Goods” group, comprised of Canada, the E.U., Japan, Korea, New Zealand, Norway, Switzerland, Taiwan (Chinese Taipei), and the U.S.³¹ Their list consisted of 153 products. The “Friends” proposal, however, received significant criticism from major developing countries. Argentina, Brazil, China, India, and South Africa argued that many of the goods on the list are used for non-environmental purposes and that the list, as a whole, is designed to advance the market-access interests of developed countries.³² Several developing countries argued that the list should be comprised of goods that serve only a single environmental end-use and not any dual-use products.³³

Although the “list-based” approach remains the preferred approach of most environmental goods exporters, little progress has been made on the composition of the final list. In 2011, the Chairman of the WTO CTE decided simply to issue a compendium reference list of the 408 potential products raised by negotiating parties, over which there remained widespread disagreement.³⁴

In addition, a number of countries are staunchly opposed to any negotiations along the “list-based” approach. They argue that it would permit the entry of goods that may not advance any environmental objectives and that it is detrimental to the interests of small and medium enterprises in the developing world.³⁵ India has

³¹ Special Session of the Committee on Trade and Environment, *Continued Work Under Paragraph 31(iii) of the Doha Ministerial Declaration – Non-Paper by Canada, European Communities, Japan, Korea, New Zealand, Norway, Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu, Switzerland and United States*, JOB(09)/132 (Oct. 9, 2009) [hereinafter *Friends of Environmental Goods Proposal*, JOB(09)/132].

³² UNCTAD, *supra* note 23, at 12.

³³ Int’l Centre for Sustainable Trade and Dev., *Lists of Environmental Goods: An Overview* 8, (Dec. 2013) (by Mahesh Sugathan); *see also Developing Countries Present Views on Environmental Goods*, 6(11) BRIDGES TRADE BIORES, (2006).

³⁴ Special Session of the Committee on Trade and Environment, *Report by the Chairman, Ambassador Manuel A. J. Teehankee to the Trade Negotiations Committee*, Annex II.A, TN/TE/20 (Apr. 21, 2011) [hereinafter *2011 CTESS Chairman Report*]. The Harmonized System (HS) is the World Customs Organization classification scheme used by WTO members to designate their tariff commitments. The HS uses a code to identify products that cascades from two-digit headings to four-digit sub-headings to six-digit sub-headings and beyond. HS-6 refers to sub-headings set at the six-digit level, which is the level at which WTO members make their tariff commitments. Note that in this Article, I will make reference to HS-8, HS-9, etc., which refers to sub-headings at a further level of granularity.

³⁵ Special Session of the Committee on Trade and Environment, *Environmental Goods for Development: Submission by India*, ¶¶ 6-10, TN/TE/W/51 (June 3, 2005) [hereinafter *India Submission TN/TE/W/51*]; *see generally* Matthew Stillwell, *Advancing the WTO Environmental Goods Negotiations: Options and Opportunities*, ECOLOMICS (Jan. 2008), <http://www.ecolomics->

proposed an alternative approach known as the “project-based” approach.³⁶ This approach would lower tariffs temporarily for products imported for specific environmental projects. Such projects would be selected by a designated national authority according to criteria specified by the CTE; they could include projects “aimed at meeting national environmental objectives as well as objectives of any bilateral or multilateral environmental agreement.”³⁷ India argued that the “project-based” approach would address concerns over dual-use products not imported for environmental purposes and would allow countries to better tailor liberalization to fit their specific context and development needs.³⁸

Not surprisingly, several countries raised issues over the “project-based” approach.³⁹ They are sceptical that the approach would lead to liberalization that is both predictable and transparent.⁴⁰ Several WTO members, including the U.S., also argued that the approach was incompatible with WTO rules because it allowed a designated authority to decide whether projects should be eligible.⁴¹

In 2005, Argentina proposed a third approach with the hope that it might serve as a way to bridge the differences between the two approaches.⁴² Known as the “integrated” or “hybrid” approach, the approach would allow each WTO member to designate certain public and private entities within their territory as carrying out environmental activities.⁴³ Preferential tariffs would then be given to all imports by such entities. India later embraced a revised version of the original Argentine proposal.⁴⁴ However, several WTO members, including many adherents of the

international.org/eops_08_1_matthew_stilwell_wto_ctess_environmental_goods_negotiations.pdf.

³⁶ See *id.*; see also Special Session of the Committee on Trade and Environment, *Structural Dimensions of the Environmental Project Approach: Submission by India*, TN/TE/W/54 (July 4, 2005); Special Session of the Committee on Trade and Environment, *Procedural and Technical Aspects of the Environmental Project Approach: Submission by India*, TN/TE/W/60 (Sept. 19, 2005); Special Session of the Committee on Trade and Environment, *Environmental Project Approach – Compatibility and Criteria: Submission by India*, TN/TE/W/67 (June 13, 2006).

³⁷ *India Submission* TN/TE/W/51, *supra* note 35, ¶¶ 12-13.

³⁸ *Id.* ¶¶ 3-4, 15-18.

³⁹ Special Session of the Committee on Trade and Environment, *Report by the Chairperson of the Special Session of the Committee on Trade and Environment to the Trade Negotiations Committee*, ¶ 6, TN/TE/13 (Oct. 12, 2005).

⁴⁰ *Members Continue to Debate How to Address Environmental Goods*, BRIDGES WEEKLY TRADE NEWS DIGEST, July 12, 2006.

⁴¹ *Id.*

⁴² Special Session of the Committee on Trade and Environment, *Integrated Proposal on Environmental Goods for Development: Submission by Argentina*, TN/TE/W/62 (Oct. 14, 2005).

⁴³ *Id.*

⁴⁴ Special Session of the Committee on Trade and Environment, *Integrated Approach to Paragraph 31(iii) – Submission by Argentina and India*, JOB(07)/54 (June 6, 2006).

“list-based” approach, expressed scepticism over how the approach is too complex and cumbersome to manage, as well as inconsistent with WTO rules.⁴⁵ A compromise proved elusive.

A fourth approach proposed was the classic “request-and-offer” approach used in other WTO tariff negotiations. In this approach, WTO members request tariff cuts of each other bilaterally and then agree to extend any concessions multilaterally to all other WTO members. Brazil put forth such a proposal in 2007, which was subsequently further revised.⁴⁶ Australia, Colombia, Hong Kong, Norway, and Singapore also put forward another such proposal in 2011.⁴⁷ Again, the hope was that it might serve as a compromise. However, most WTO members failed to lend their support to this approach as well.

The inability of WTO members to agree on the scope of an environmental good and to bridge the differences between the competing alternate approaches rendered it impossible for the multilateral negotiations to proceed. Besides the two key questions, other sources of disagreement also remained. In general, developing countries have sought special and differential treatment through product exemptions, commitments for a smaller number of tariff lines, and other flexibilities.⁴⁸ Some developing countries insisted on technical assistance from

⁴⁵ Int’l Centre for Trade and Sustainable Dev., *Trade in Environmental Goods and Services and Sustainable Development: Domestic Considerations and Strategies for WTO Negotiations*, 13 (2007) (by E. Claro, et al).

⁴⁶ Special Session of the Committee on Trade and Environment, *Environmental Goods for Development: Submission by Brazil*, JOB(07)/146 (Oct. 1, 2007); Special Session of the Committee on Trade and Environment, *Scheme for Request and Offer Procedure in Environmental Goods – Non-Paper by Brazil*, JOB(09)/184 (Dec. 15, 2009); Special Session of the Committee on Trade and Environment, *Communication from Argentina and Brazil – Environmental Goods and Services – Paragraph 31(iii) – Special and Differential Treatment*, TN/TE/W/76 (June 30, 2010) [hereinafter *Argentina and Brazil Submission TN/TE/W/76*].

⁴⁷ Special Session of the Committee on Trade and Environment, *A Hybrid Approach to the Liberalization of Environmental Goods Under Paragraph 31(iii): Submission by Australia; Colombia; Hong Kong, China; Norway and Singapore*, JOB/TE/15 (Mar. 7, 2011).

⁴⁸ See, e.g., *China Submission TN/TE/W/42*, *supra* note 28, ¶ 6; *Argentina and Brazil Submission TN/TE/W/76*, *supra* note 46, Annex 7, ¶ 7; Special Session of the Committee on Trade and Environment, *Combined Approach for Environmental Goods: Submission by Mexico and Chile*, ¶ 12, JOB/TE/16 and Corr. 1 (Mar. 11, 2011); Special Session of the Committee on Trade and Environment, *Views of the Small Vulnerable Economies on the Negotiation of Paragraph 31(iii) of the Doha Ministerial Declaration*, ¶ 5, JOB/TE/18 (Apr. 1, 2011); Special Session of the Committee on Trade and Environment, *WTO Negotiations on Environmental Goods and Services: Addressing the Development Dimension for a “Triple-Win” Outcome: Communication from China and India*, ¶¶ 16-8, TN/TE/W/79 (Apr. 15, 2011) [hereinafter *China and India Submission TN/TE/W/79*].

developed countries.⁴⁹ Some also sought flexibility to consider technology transfer and capacity building concerns when deciding whether to liberalize trade for certain goods.⁵⁰

In addition, the lack of progress in other areas of the Doha Round, such as agriculture, has not helped to break the standoff. Without the possibility of making trade-offs across issue areas, developed and developing countries have remained fairly obstinate in their negotiating positions. This unwillingness to yield on core issues has meant that the attempts to negotiate a multilateral agreement at the WTO have come to a standstill since 2011. Frustrated with the deadlock, a group of countries decided to focus their negotiating energy elsewhere. The hope was that the progress in another forum might put competitive pressure on the WTO to act.

B. *The APEC Initiative on Environmental Goods*

The forum to which this group of countries turned to was APEC. Since the mid-1990s, APEC has been involved in trying to facilitate a trade deal in environmental goods.⁵¹ In November 2011, the leaders of twenty-one APEC economies announced their intention to “develop an APEC list of environmental goods that directly and positively contribute to our green growth and sustainable development objectives” within a year.⁵² For this list, the leaders resolved that by the end of 2015, APEC economies would lower applied tariff rates to five percent or less, and eliminate non-tariff barriers, including local content requirements.⁵³

The APEC initiative is significant because its membership collectively accounts for approximately 55 percent of global GDP and 44 percent of world trade.⁵⁴ While the initiative was ostensibly spurred by the United States, it embraced a mixture of

⁴⁹ See, e.g., Special Session of the Committee on Trade and Environment, *Elements for Ensuring a Sustainable Development Outcome Under Paragraph 31(iii) of the Doha Ministerial Declaration: Submission by Bolivia and the Bolivarian Republic of Venezuela*, ¶ 13, JOB/TE/17 (Mar. 24, 2011); *China and India Submission* TN/TE/W/79, *supra* note 46, ¶¶ 8-12.

⁵⁰ See, e.g., Special Session of the Committee on Trade and Environment, *Paragraph 31(iii) of the DMD – Environmental Goods – Technical Discussion meetings in the WTO Committee on Trade and Environment: Priority Challenges: Communication From Colombia*, JOB(06)/149 (May 19, 2006).

⁵¹ For more details, see Alexey Vkhlyayev, *Environmental Goods and Services: Defining Negotiations or Negotiating Definitions*, 38 J. WORLD TRADE 93, 102-3 (2004).

⁵² Asia-Pacific Economic Cooperation, 2011 Leaders' Declaration, The Honolulu Declaration: Toward a Seamless Regional Economy, 12-13 Nov. 2011.

⁵³ *Id.*

⁵⁴ *What is Asia-Pacific Economic Cooperation?*, ASIA-PACIFIC ECONOMIC COOPERATION, <http://www.apec.org/about-us/about-apec.aspx>.

developed and developing countries. The others involved included Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Taiwan (Chinese Taipei), Thailand, and Vietnam.

Unlike the WTO talks, the APEC negotiations to forge a common list of environmental goods proved successful. At the APEC meeting in Vladivostok, Russia in September 2012, the APEC members announced that they had reached agreement on a list of 54 goods for which they were committed to lowering applied tariffs to five percent or less by 2015.⁵⁵ The list included several renewable energy and clean technology products, such as solar panels and wind turbines. It also included wastewater, waste treatment, and air pollution control technologies, such as UV disinfection equipment, catalytic converters, and waste incinerators.⁵⁶ The list focused primarily on core products and technologies. It did not include many products whose environmental credentials stem from the fact that they are relatively more environmentally-friendly than alternatives, such as hybrid cars or energy-efficient washing machines.⁵⁷ Because the tariff cuts were to be applied across-the-board, rather than limited to just imports from other APEC economies, the initiative did not contravene WTO rules.

The success of the APEC initiative validated two important points: First, it confirmed the viability of the “list-based” approach. Second, it suggested that a switch away from a comprehensive multilateral negotiation involving all WTO members toward a plurilateral negotiation among a smaller subset of WTO members might prove more fruitful. As intended, the APEC initiative spurred much debate within the WTO. In November 2012, Australia and Russia jointly presented the results back to the CTE. The reaction was mixed. Some, such as the European Union and Switzerland, strongly welcomed the announcement. Others, such as Bolivia, India, and South Africa, expressed their concern that the result might influence the future course of WTO negotiations.⁵⁸ That is, of course, exactly what happened next.

⁵⁵ Asia-Pacific Economic Cooperation, 2012 Leaders’ Declaration, The Honolulu Declaration: Toward a Seamless Regional Economy, 12-13 Nov. 2011, Annex C.

⁵⁶ For an in-depth analysis of the APEC list, see Int’l Centre for Sustainable Trade and Dev., *The APEC List of Environmental Goods*, ICTSD Issue Paper No. 18 (June 2013) (by Rene Vossenaar).

⁵⁷ Among those included which might fall into this category is bamboo floor panels, whose inclusion the APEC members noted was on account of the fact that “[s]ince bamboo is characterized by short growing cycle, these environmental-friendly products can save a great deal of water, soil, and air resources.” 20th APEC Economic Leaders’ Declaration, Vladivostok, Russia, at Annex C.

⁵⁸ *APEC Push to Liberalise Environmental Goods Spurs Debate at WTO*, BRIDGES WEEKLY TRADE NEWS DIGEST, Nov. 14, 2012.

C. The Move Towards a Plurilateral Environmental Goods Agreement

By January 2013, the WTO was coming to the conclusion that it would be difficult to conclude the Doha Round negotiations as a single package. WTO Director General, Pascal Lamy admitted this fact, noting that “[d]ifferences between rich and developing nations have been a stumbling block in the conclusion of the talks.”⁵⁹

Meanwhile, following the success of the APEC initiative, the United States led an effort to persuade the WTO to transform the stalled environmental goods negotiations from a multilateral approach to a plurilateral one.⁶⁰ In practice, what this meant is that the issue of environmental goods would be carved out from the Doha Round single undertaking. Instead of having all WTO members negotiate collectively, the negotiations would be limited to a sub-set of WTO members willing to move forward on the list approach. Provided they reached an agreement, the agreement would then be open for other WTO members, including those that did not negotiate the agreement, to join. Once a critical mass of WTO members ratified the agreement, it would enter into force. This approach was not novel; the WTO had already embraced it with respect to other contentious issues where consensus proved difficult, such as government procurement and information technology goods (through ITA I and II).

The difficulty of achieving any consensus among WTO members became readily apparent in late 2013 as WTO members sought to negotiate an “Early Harvest” package for its Ninth Ministerial meetings in Bali, Indonesia.⁶¹ The idea was to create a package that addressed only negotiating items which were relatively non-controversial and for which the gains were readily apparent. But even achieving an agreement on the so-called “low hanging fruit” items proved difficult. Several interim deadlines were missed, and the Ministerial meetings had to be extended by an additional day before an agreement was finally forthcoming. This experience further reinforced the notion that successfully negotiating an environmental goods agreement as part of a single undertaking was almost impossible in the near term.

At the same time, developed countries were growing restless with the impasse in the Doha Round negotiations. Major trading powers had already commenced

⁵⁹ Dilash Seth, *Difficult to Conclude Doha Round as a Single Package, Says Pascal Lamy*, ECON. TIMES, Jan. 29, 2013.

⁶⁰ Robert Howse, *Obama’s Free-Trade Green Plan Has a Chance of Breaking WTO Inertia*, THE GLOBE AND MAIL, June 27, 2013.

⁶¹ See Shawn Donnan, *World Trade Talks Face Collapse, Warns Roberto Azevêdo*, FIN. TIMES, Nov. 26, 2013. An “early harvest” refers to when negotiating parties conclude negotiations and agree on a limited set of items before the conclusion of multi-issue negotiations.

negotiations for free trade agreements among themselves, including the Trans-Pacific Partnership (TPP), Trans-Atlantic Trade and Investment Partnership (TTIP), and the EU-Japan Free Trade Agreement. They had also commenced negotiations for a Trade in Services Agreement outside of the WTO framework. The possibility existed that they too could do the same with respect to further negotiations over environmental goods beyond the APEC commitments.

Consequently, in early 2014, the WTO agreed to transform the environmental goods from a multilateral to plurilateral negotiating initiative. On 24 January 2014, at Davos, a group of WTO members issued a joint statement stating that they would initiate negotiations toward a plurilateral agreement. The group consisted of (1) the nine members that are part of the Friends of Environmental Goods coalition; (2) the three other developed economy members of APEC not within the coalition (Australia, Hong Kong, and Singapore); and (3) two developing countries (China and Costa Rica).

The announcement stated that the countries would build off the APEC list of 54 environmental goods as a starting point for their negotiations.⁶² It further added that the countries are “committed to exploring a broad range of additional products” in the context of an agreement made flexible to respond to future technological changes.⁶³ The agreement would benefit all WTO members by applying the MFN principle and would take effect only once a “critical mass of WTO members participates.”⁶⁴ Although the statement did not declare a specific percentage, USTR Michael Froman noted that he expects the threshold will be similar to that of the ITA, which requires that 90 percent of world trade be covered by the participants before the agreement enters into force.⁶⁵

The initiative was strongly supported by the WTO Director-General Roberto Azevêdo, who viewed the move as in line with his efforts to break the Doha Round deadlock by dealing in piecemeal fashion with the most promising areas for potential agreement.⁶⁶ However, the move remained controversial within the WTO membership, especially with those countries that had earlier warned against having the APEC initiative influence the course of WTO negotiations. The move away from the multilateral approach toward a plurilateral approach represented exactly that. In a concession to such sensitivities, Director-General Azevêdo stayed away

⁶² *Joint Statement Regarding Trade in Environmental Goods*, EUROPEAN COMMISSION (Jan. 24, 2014), http://trade.ec.europa.eu/doclib/docs/2014/january/tradoc_152095.pdf.

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ Letter from Ambassador Michael Froman, United States Trade Representative, to John Boehner, Speaker of the US House of Representatives (Mar. 21, 2014), <http://www.ustr.gov/sites/default/files/03212014-Letter-to-Congress.pdf>.

⁶⁶ Paul Taylor, *Major Trade Powers Pledge Free Trade in Green Goods*, REUTERS, Jan. 24, 2014.

from the joint news conference announcing the new plurilateral initiative and only expressed his support through the media.⁶⁷

Negotiations for the new agreement are expected to take the form of the “list-based” approach given that this is the preferred approach of most participants and the basis for the APEC initiative. It is possible that such an approach may be further complemented by a “request-and-offer” approach, although it remains to be seen whether this will be necessary or productive. Questions, such as whether the tariffs commitments will be at the HS-6 level or countries can designate particular tariff sub-headings within a HS-6 category, will also be decided during the course of the talks.⁶⁸

The plurilateral negotiations officially kicked off on 8 July 2014. They are expected to take place in two phases, with the first aiming to eliminate tariffs and customs duties for a wide range of goods and the second, addressing non-tariff barriers and environmental services.⁶⁹

Given the difficult impasse that has persisted for over a decade, the WTO’s decision to abandon the multilateral approach in favour of a more limited plurilateral approach appears to be correct. The WTO members that have signed on to participate in the newly-constituted environmental goods negotiations represent the overwhelming majority of countries with manufacturing and export-oriented interests in environmental goods. With fewer players in the room, the ability to reach a deal may be easier. Moreover, the move also positively signals the WTO’s desire to not be held hostage by the negotiating constraints of a few countries, while its relevance diminishes among major trading powers.

With the launch of the new environmental goods negotiations, the WTO is once again exploring the possibility that not all trade negotiations need to be done as a multilateral, single undertaking. Instead, it is taking advantage of the flexibility afforded by plurilateral agreements, as envisioned in Annex 3 of the WTO Agreements. In other words, the WTO is retreating back to the earlier GATT approach of negotiating limited-scope treaties that are open to all of its members, but not necessarily required. This is a prudent move on the part of the WTO, given the retreat from trade multilateralism in recent years.⁷⁰ However, as will be

⁶⁷ *Id.*

⁶⁸ *Id.* (noting that this issue remains unresolved for the APEC commitments).

⁶⁹ *Azevêdo Welcomes Launch of Plurilateral Environmental Goods Negotiations*, WORLD TRADE ORGANIZATION (July 8, 2013), http://www.wto.org/english/news_e/news14_e/envir_08jul14_e.htm [hereinafter *WTO Environmental Goods Launch Announcement*].

⁷⁰ Pascal Lamy, *The Perilous Retreat from Global Trade Rules*, WALL ST. J., Dec. 30, 2013.

discussed, it is not one without consequences, particularly for developing countries.

III. THE CONVENTIONAL EXPLANATION FOR THE ABSENCE OF DEVELOPING COUNTRIES

Notable in their absence from the WTO's new plurilateral environmental goods negotiating initiative are the developing countries. With the exception of China and Costa Rica, all of the other twelve participants, representing 39 WTO members, are developed economies.⁷¹ This is in stark contrast to the APEC initiative where nearly half of the participants are developing countries. Indeed, as noted, the opposition from some developing countries was strong enough so as to cause the WTO Director-General to stay away from the press conference highlighting the WTO's first post-Bali negotiating initiative and one of its most significant recent moves to spur actions to combat climate change.

Why are developing countries choosing not to participate in the new plurilateral negotiations? As Part II explained, the new initiative arose partially out of an effort by developed countries to sidestep the objections of certain developing countries to their proposals in the earlier multilateral negotiations. But developing countries were by no means united in their opposition to developed countries in the earlier talks. As highlighted in Part II, several floated compromise proposals, and many willingly took part in the parallel APEC initiative employed by several developed countries as a forum-shifting strategy. So why then have all but two refused to take part in the new initiative?

The conventional explanation starts from the presupposition that developing countries are significant exporters of environmental goods and therefore have interests at stake in the negotiations. Robert Hamwey's work has played an important and influential role in establishing this view. In 2003, Hamwey authored an extensive study on developing countries and environmental goods for the United Nations Conference on Trade and Development (UNCTAD).⁷² A few years later, in an updated version of his UNCTAD study, Hamwey then wrote:

“Data indicate that developing countries have significant export strength and potential, not only in environmentally preferable products, but in many manufactured and chemical goods used in the provision of environmental trade services as well. Although they possess positive

⁷¹ See *supra* note 12 regarding the fact that my classification of a WTO member by type is based on the World Bank's classification scheme, and not a WTO's self-declaration of its categorization.

⁷² Hamwey CTBF Briefing Note, *supra* note 14.

trade balances only in the former class of goods, their exports of the latter class are growing rapidly. Appropriately designed, trade liberalisation could allow some developing countries to significantly expand their production and export of such dynamic environmental goods and thus promote increased industrial diversification of their economies. For many others, trade liberalisation of environmentally preferable industrial and consumer goods may provide immediate gains needed to support rural economies and facilitate the integration of their small and medium sized enterprises into global supply chains.⁷³

Moreover, according to the conventional narrative, the situation for this category of goods is tilting in favour of developing countries. Veena Jha has suggested that the industry faces an underlying situation in which “developing countries have a dynamic comparative advantage” for most categories of environmental goods, whereas “developed countries show a static or declining comparative advantage.”⁷⁴ This tilt in favour of developing countries, moreover, is not just a recent phenomenon. Jha’s work has highlighted that already by the late 1990s / early 2000s, the ratio of developing country exports to imports of environmental goods, was already increasing, with a corresponding decline in the same ratio for developed countries.⁷⁵

Finally, the conventional narrative suggests that the set of developing countries with export interests at stake in environmental goods is broad. As expected, it includes large emerging economies such as China, Brazil, India, Indonesia, Malaysia, Mexico, and South Africa.⁷⁶ However, the story extends beyond just the BRICS and middle-income countries. Lower middle income countries and LDCs are also believed to have significant interests at stake. Hamwey’s earlier study found that several LDCs, such as Bangladesh, Madagascar, and Nepal, export a significant amount of environmental goods, when considered as a percentage of their overall total exports.⁷⁷ Hamwey also emphasized the notable presence of several smaller economies such as Grenada, Honduras, and Sri Lanka in exporting environmental goods.⁷⁸ A more recent study for the United Nations Development Programme found that of the ten LDCs which constitute the key exporters of environmental goods from that category of WTO members, seven are in Africa, whereas only three are in Asia.⁷⁹

⁷³ Hamwey ICTSD Report, *supra* note 14, at 2.

⁷⁴ Jha, *supra* note 14, at 29.

⁷⁵ *Id.*

⁷⁶ Hamwey CTBF Briefing Note, *supra* note 14, at 33.

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ UNDP, *Trade Negotiations on Environmental Goods and Services in the LDC Context* 1, at 33 (Aug. 2010) (by Fahmida Khatun). However, note that Khatun, unlike Hamwey, does not

If a diverse set of developing countries have interests at stake when it comes to environmental goods, why then would they choose to not join the WTO plurilateral negotiations? After all, such negotiations are expected to lead to lower tariffs which would benefit their exports. One might suppose that they would seek a seat at the table to affect the outcome of these tariff negotiations.

The conventional explanation suggests that two countervailing forces offset the expected positive gains from the negotiations for most developing countries. Within any given country, the costs associated with one or both of these forces are considered to be too great for any government to seek the benefits of joining the negotiations. Therefore, even if a developing country may stand to gain from the talks, it may not be willing to take the risk because of the possibility of these additional costs.

A. Protecting Domestic Industries

The first cost is reduced policy flexibility to protect domestic infant industries. As one commentator has noted, “many developing countries fear that an influx of [environmental good] imports resulting from trade liberalisation could destabilise domestic producers.”⁸⁰ While developing countries may have growing production capabilities in environmental goods, many are not confident of their producers’ competitiveness versus foreign importers.⁸¹ Therefore, they would prefer to maintain high tariffs to keep out foreign products, when necessary, to protect nascent domestic producers.⁸² Because the WTO plurilateral initiative would require firm tariff cuts, and therefore curb their policy flexibility regarding tariffs, developing countries, as a whole, are staying away.

On the whole, developing countries have much higher levels of tariff protection for environmental goods than developed countries. Earlier work suggested that the applied tariff rate for environmental goods in developing countries was, on average, over ten times higher than that of developed countries.⁸³ More recent

suggest that LDCs are necessarily key exporters of environmental goods, only that production capacity is concentrated in a subset of LDCs.

⁸⁰ Hamwey ICTSD Report, *supra* note 14, at 9.

⁸¹ See generally Schwarzer, *supra* note 15, at 3-7 (discussing various economic justifications for industrial policy).

⁸² For an explanation of the dynamics at work, from the standpoint of a developing country, see Xu Bin, *Infant Industry and Political Economy of Trade Protection*, 11 PAC. ECON. REV. 363 (2006) (illustrating how ideally, tariff preferences are V-shaped, because they decrease initially to promote the viability of an industry but increase afterwards as industry expands and exerts political power to gain protection).

⁸³ Hamwey ICTSD Report, *supra* note 14, at 8.

work has shown that while the difference between developed and developing countries remain large for bound tariffs, applied tariff rates have shrunk for all countries, including developing countries.⁸⁴ Nevertheless, average applied tariff rates are still three to six times higher, depending on the category of developing countries.⁸⁵

One reason that developing countries have maintained higher levels of tariff protections for particular environmental goods is to use them as a tool to promote sector-specific industrial policies to develop production and/or export capacity for such goods. Many green industrial sectors are viewed as having positive spillover effects, and several emerging economies have kept tariffs high in order to promote manufacturing in certain sectors.⁸⁶ Examples include China's successful development of a photovoltaic cell industry, and India's development of wind turbine industry.⁸⁷

Often, tariffs are but one part of a multi-prong strategy to promote a green industrial policy. Other policy instruments deployed include various fiscal incentives, feed-in-tariffs, government tendering, renewable energy mandates/targets, and public investments.⁸⁸ The general belief is that the combination of policy instruments can provide domestic producers with an advantage over their competitors whose governments may be providing less support.

Why might flexibility over tariff policy, in particular, be important? Higher tariffs increase the cost of foreign products and therefore artificially divert demand in favour of domestically-produced substitutes. If the industry is one in which there are increasing returns to scale, then such policies can assist domestic producers in reaching a certain size to exploit scale advantages to compete against foreign producers.⁸⁹ Moreover, if the domestic industry remains relatively protected, then this allows domestic producers to extract larger profits from domestic sales; this

⁸⁴ Balineau & de Melo, *supra* note 15, at 699-704.

⁸⁵ *Id.* at 703. Note that while the applied tariff rates are highest for low-income countries, those of upper-middle-income developing countries are higher than those of lower-middle-income countries.

⁸⁶ Schwarzer, *supra* note 15, at 41-43.

⁸⁷ See GREEN INDUSTRIAL POLICY IN EMERGING COUNTRIES (Anna Pegels ed.) (2014); David Popp, *The Role of Technological Change in Green Growth* (Nat'l Bureau of Econ. Research, Working Paper 18506, 2012).

⁸⁸ See generally Ren21, *Renewables 2014: Global Status Report*, 74-91 (2014).

⁸⁹ An extensive body of theoretical and empirical literature discussing efficiency gains from scale economies, including the role of tariffs in implementing strategic trade theory. For a short overview, see Paul Krugman, Introduction in *EMPIRICAL STUDIES OF STRATEGIC TRADE POLICY 1* (Paul Krugman & Alasdair Smith eds., 1994).

then allows it to implement a competitive low-cost pricing strategy for exports as a means to win foreign market share.

Numerous studies have shown that only under select circumstances can a strategy of infant industry protection succeed.⁹⁰ Nevertheless, this has not stopped various governments from trying to implement this approach. Consequently, even in light of failed infant industry policies and examples of openness promoting growth, tariff rates are much higher in many developing countries than developed countries for environmental goods.⁹¹ Under such circumstances, should all parties agree to lower bound tariff rates to zero, domestic producers correctly believe that they would lose out much more than their competitors.

Therefore, the conventional belief is that one reason developing countries are eschewing the negotiations is because of a desire to maintain policy flexibility to protect domestic industries. Certain domestic producers enjoy the rents associated with infant industry protection and are using their political capital effectively to lobby their governments to stay out. Moreover, government officials themselves may also value the flexibility to employ tariffs, as one of an array of industrial policy instruments, to support nascent domestic industries with positive spillover effects and other positive externalities. These protectionist/pro-industrial policy forces are strong enough to defeat those championing greater trade liberalization to benefit exporters.

B. Fears of a Disaggregated Doha Round

Besides the political economy argument emphasizing producers' protectionist interests, developing countries also have a tactical and ideological reason to oppose the WTO's transformation of the environmental goods negotiations from a multilateral to a plurilateral initiative. For developing countries, the promise of the Doha Round has been the possibility of redress for what they perceive to be the imbalances stemming from the earlier Uruguay Round agreements. As the Doha Declaration itself noted, "the needs and interests" of developing countries are to be placed "at the heart" of the Doha Round negotiations, with "positive efforts designed to ensure that developing countries, and especially the least-developed among them, secure a share in the growth of world trade commensurate with the

⁹⁰ See, e.g., Ann Harrison & Andrés Rodríguez-Clare, Trade, Foreign Investment, and Industrial Policy for Developing Countries in 5 HANDBOOK FOR DEVELOPMENT ECONOMICS 4039 (2010); Melitz, *supra* note 16.

⁹¹ Hamwey ICTSD Report, *supra* note 14, at 8-10; Jaime de Melo & Mariana Vijil, *The Relaunching of Negotiations on Environmental Goods: Any Breakthrough in Sight?* VOXEU (Apr. 1, 2014), <http://www.voxeu.org/article/relaunching-negotiations-environmental-goods>.

needs of their economic development.”⁹² Deemed especially important are concessions for “enhanced market access, balanced rules, and well-targeted sustainably financed technical assistance and capacity-building programmes” which are viewed as playing an important role to facilitate trade and development.⁹³

The Doha Round negotiations started with the intention that the final agreement, like that of the prior Uruguay Round, would be a “single undertaking.” As the WTO itself notes, “This means that [the negotiations] form a single package . . . , to be signed by each country with a single signature without any option to pick and choose between different subjects.”⁹⁴

Many developing countries view the “single undertaking” approach as critical for their ability to secure the development-oriented concessions that they are seeking. Sceptical that developed countries will grant them concessions altruistically, they view the single undertaking as helping to facilitate concessions across issue areas.⁹⁵ For example, the single undertaking allows developing countries to trade off certain market access concessions sought by developed countries in exchange for greater technical assistance, more flexible application of certain rules, or greater limits on agricultural subsidies.

As the Doha Round has stalled, some individuals in advanced economies have come to view the single-undertaking approach as the Achilles Heel of the negotiations. It is too hard, they argue, to reach an across-the-board agreement on all areas, especially when some are politically sensitive for governments. Instead, they suggest splitting the negotiations into smaller, more manageable component parts where agreements can be more easily reached.⁹⁶ These would be delivered when ready, rather than waiting for the entire Doha Round to be completed.

Developing countries have largely opposed calls to split up the Doha Round into smaller packages. For example, India’s former Ambassador to the WTO, Srinivasan Nayaranan, lambasted developed countries’ proposals to negotiate

⁹² Doha Ministerial Declaration, *supra* note 1, para. 2.

⁹³ *Id.*

⁹⁴ *The Doha Round Texts – Introduction*, WORLD TRADE ORGANISATION, http://www.wto.org/english/tratop_e/dda_e/texts_intro_e.htm.

⁹⁵ ALEXEY VIKHLYAEV, WTO NEGOTIATIONS ON ENVIRONMENTAL GOODS: SELECTED TECHNICAL ISSUES, at 13, UNCTAD/DITC/TED/2011/1 (2011) (“given the asymmetries in environmental markets, the developing members will be looking for trade-offs against other negotiating agendas, and this kind of bargaining is indeed taking place”).

⁹⁶ See, e.g., *Australia Urges Breaking Doha Round into Small Pacts*, REUTERS, Nov. 10, 2011.

issues on a stand-alone basis as “highly regrettable.”⁹⁷ He praised “developing countries who are extremely disturbed by [this] stance” for rightly demanding that the “Doha Round should be completed, with its development mandate intact, on the basis of the Single Undertaking.”⁹⁸

The Early Harvest package forged at the 2013 Bali Ministerial was precisely a step in the direction away from a single undertaking. The agreement was focused primarily on trade facilitation, divorcing this issue from the others remaining in the Doha Round. However, the package was billed as a confidence-enhancing measure designed to address points of agreement, or the so-called “low-hanging fruit” issues. Formally, the notion of the Doha Round as a single undertaking remains intact following the Bali Ministerial.

However, developing countries worry that this may not be the case for much longer. With the first action of the post-Bali agenda being the commencement of another single-issue plurilateral agreement, developing countries fear that the WTO’s commitment to the notion of a single undertaking approach for the Doha Round may be waning.⁹⁹ Hence, they may have chosen not to participate in the new plurilateral environmental goods negotiations in order to register their displeasure with the move away from the single undertaking. Their greatest negotiating leverage lies in having all of the items negotiated collectively. Any attempts to undermine this approach by negotiating issues on a piecemeal basis should be resisted. The first-order goal of securing development-oriented benefits must take priority, even if it is at the expense of positive externalities for a global public good.

C. Summary

The conventional explanation, therefore, assumes that a substantial number of developing countries, including some LDCs, have export-related interests in environmental goods. Among this subset, a number are abstaining from participating in the new WTO plurilateral negotiations for two reasons. First, some seek to protect nascent domestic industries from foreign competitors through high tariffs; they wish to maintain flexibility to employ such an approach until such a

⁹⁷ Srinivasan Nayaranan, former Indian Ambassador to the WTO, *Analysis of the WTO Impasse and Issues Facing the Bali Ministerial*, Remarks at the South Centre Conference, July 5, 2013, available at <http://alainet.org/active/65413&lang=es>.

⁹⁸ *Id.*

⁹⁹ See, e.g., *Why India Won't Accept WTO Agreement on IT, Environment*, FIRSTBIZ., (Jan. 14, 2013), <http://firstbiz.firstpost.com/economy/why-india-wont-accept-wto-agreement-on-it-environment-35732.html> (quoting a top Indian official as saying, “One of the objectives of (developed world) all these proposals is to cash them and then forget Doha and that is what exactly we do not want to happen.”).

time that their producers become globally competitive. Second, some are also dismayed by the WTO's fading commitment to the single-undertaking approach to negotiations. They are therefore avoiding the new plurilateral initiative as a form of protest.

If the conventional explanation is correct, it suggests that two steps are critical for spurring more of these developing countries to participate. First, one would need to convince them of the futility of employing tariffs as a means to implement a successful industrial policy for green goods. This might be done through arguments about the difficulty of engaging in industrial policy overall, or through a more nuanced argument suggesting the use of other alternative instruments besides tariffs to drive a green industrial policy.¹⁰⁰ Second, one would need to make progress on the post-Bali agenda for the Doha Round altogether. After all, if non-participation is linked to the broader negotiations agenda, progress must be made on that front before developing countries are likely to sign on to any further plurilateral initiatives.

Would these steps, if taken, really be sufficient to spur more developing countries to join? The answer is no. Instead, deeper changes must be made to the plurilateral negotiation's scope, if it hopes to entice more developing countries on-board.

The conventional explanation fails to capture adequately what truly lies behind the reluctance of more developing countries to embrace the new negotiations, not because it is wrong, but because it misses the main point. As noted, the conventional explanation is premised on an assumption that strong dynamic export interests exist in developing countries that favour participation, but that these interests are trumped in the domestic political economy by other competing interests.

But that assumption may be wrong. To test whether such constituencies in fact exist, I conducted an original in-depth analysis of trade flow data of countries in environmental goods. My analysis concentrates not only on which countries are producing which particular products, as previous studies have, but also on their relative share of global trade and on the destination of their exports. In addition, my analysis considers the impact of trade liberalization not only in the narrow context of the WTO plurilateral initiative alone, but also in conjunction with other initiatives including free trade agreements.

¹⁰⁰ For examples of works suggesting that other policies besides tariffs may be more effective, see JUSTIN YIFU LIN, *NEW STRUCTURAL ECONOMICS: A FRAMEWORK FOR RETHINKING DEVELOPMENT AND POLICY* (2012); Melitz, *supra* note 16.

As Part IV will illustrate, when the trade flow data is disaggregated at this level and gains from trade liberalization are viewed in the broader context, the conventional explanation is proven to be flawed. Other insights emerge for why developing countries have spurned the WTO plurilateral initiative on environmental goods and what is necessary to attract them onboard.

IV. WHY DEVELOPING COUNTRIES ARE STAYING OUT: AN ALTERNATIVE EXPLANATION

In conducting my original data analyses, I relied on data on trade flows provided by the UN Comtrade database.¹⁰¹ In addition, I also drew on the data on bound tariff commitments and plurilateral trade agreements as provided by WTO databases. My analyses reveal an alternative explanation that is simpler than the conventional explanation: Most developing countries besides China remain disinterested in joining the negotiations because they have little to gain from participation in the talks as they are currently scoped. Consequently, the issue of competing interest groups in the domestic political economy, as emphasized by the conventional explanation, is irrelevant. In most developing countries, given the narrow scope of the negotiations, there is not a natural constituency that would champion participation because no producer group has significant interests at stake. Without such a constituency, not surprisingly then, most developing countries are choosing to stay out. After all, why get involved in talks with little to gain, when it will antagonize other domestic constituencies in the meantime?

A close look at the data reveals, first, that the export-related interests of developing countries in environmental goods have been exaggerated. Part IV.A presents the results of my analysis separating Chinese exports from those of other developing countries. Once China is set aside, the export interests of developing countries dwindle significantly. Many developing countries, including most LDCs, are staying out simply because they do not have interests at stake. Only a handful of developing countries, besides China, have significant scale in exports of environmental goods to care to shape the outcome.

Second, among this handful of countries, several have already secured duty-free access to their key export markets through the ongoing parallel APEC initiative and existing free trade agreements. Part IV.B reports the results of my analysis examining the impact of liberalization from APEC and other trade initiatives for their goods of interest. After the impact of such initiatives is taken into consideration, what remains at stake is market access for relatively smaller export markets. This proves to be too insignificant to warrant participation for most developing countries that are members of both the WTO and APEC.

¹⁰¹ Most of the analyses are based on data from 2012, which at the time of the analysis

Third, for non-APEC economies and for market access to non-APEC markets, the MFN nature of the concessions, in principle, allows non-participants to “free ride” on the concessions of participating WTO members. Part IV.C discusses the results of my analysis examining the extent to which developing countries can successfully engage in “free riding” strategy. It suggests that this strategy can be highly effective in most scenarios. This further undermines any desire to join the talks.

Finally, Part IV.D examines the role of intra-developing country trade in environmental goods and its impact on a developing country’s strategy. It finds that such trade is most significant in the case of India and helps to explain specifically why India does not find it to be in its interests to participate.

Collectively then, this series of interest-based explanations constitute a set of rational reasons for why most developing countries would choose to sit out the negotiations, as they are currently structured. The specifics of each are set forth in greater detail below.

A. The Lack of Significant Export Prowess in Environmental Goods

The conventional explanation supposes that a significant number of developing countries have export interests in environmental goods. It is worth considering, however, whether this is truly the case.

One major issue with the earlier studies is that when analysing the trade flows of developing countries, they tended to examine this group of countries as a collective whole.¹⁰² None sought to separate Chinese trade flows from those of other developing countries. Yet, China’s export strength and capabilities in green industries is fundamentally different than that of most other developing countries.¹⁰³ To group China with other developing countries may cause one to overestimate the collective export strength of developing countries when, in fact, most of the strength is Chinese.

To test whether this is the case, I analysed the global trade flows at the country level for each of the 54 environmental goods that are expected to be the starting

¹⁰² See, e.g., Hamwey ICTSD Report, *supra* note 14; Jha, *supra* note 14.

¹⁰³ Hamwey CTBF Briefing Note, *supra* note 14, at 37. Although Hamwey’s analysis does not separate out Chinese trade flow data from other developing countries, Table 3 of his report presents a breakdown by country for ten groups of environmental goods. In 2003, China was the leading exporter for eight of the ten groups, with Hong Kong being the lead exporter for a ninth group. Accord Jha, *supra* note 14, at 27 (listing the top ten developing country exporters of environmental goods).

point for the new plurilateral negotiations. As the information available in the UN Comtrade database exists only at the HS-6 level, it poses some problems in terms of allowing one to gain a completely accurate view of the trade in environmental products within that given tariff line.¹⁰⁴ Nevertheless, this is the best-available data, and it allows for an approximate picture of the exporting interests of developing countries in these categories.

For each of the 54 environmental goods, I identify the share of global exports attributable to (a) developing countries, excluding China; (b) China; (c) other countries involved in the WTO environmental goods negotiations besides China; and (d) other developed countries not involved in the negotiations. I rely on the World Bank's country classification scheme in order to determine which WTO members ought to be deemed developing countries.¹⁰⁵

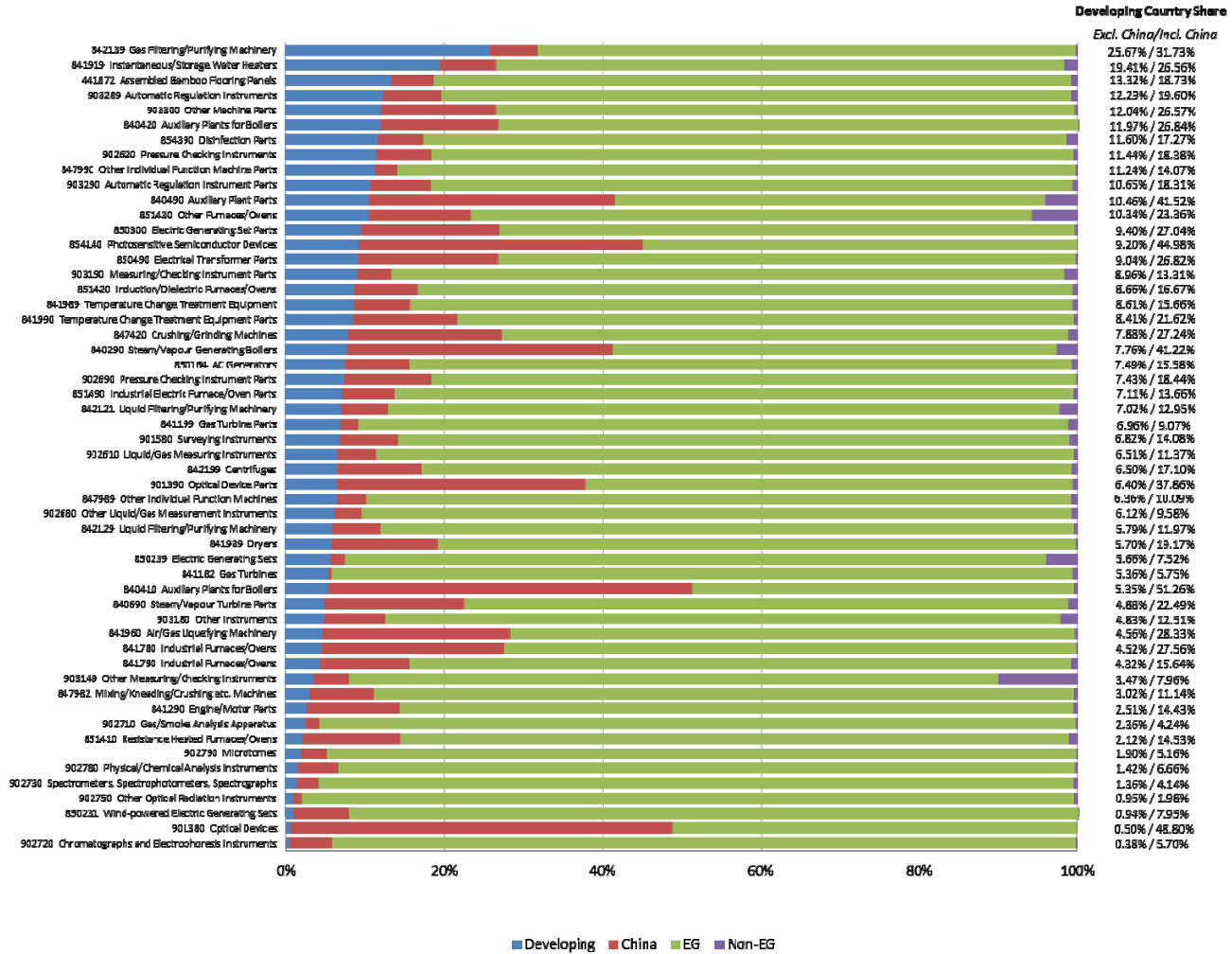
Figure 1 clearly shows that the vast bulk of environmental goods are being exported by developed economies and China – *i.e.*, the participants in the WTO plurilateral negotiations. For only one of the 54 tariff sub-headings does the collective share of exports of developing countries (excluding China) account for more than 25 percent of the total global exports of that product. Even for that sub-heading (gas filtering/purifying machinery), the bulk of developing country exports come from just two countries – South Africa and Mexico. The only other tariff sub-heading for which the collective share of excluded developing countries' exports comes close to 20 percent is instantaneous/storage water heaters. Again, a single developing country, Mexico, accounts for the lion's share of developing country exports of this product.¹⁰⁶

¹⁰⁴ Some countries further disaggregate their customs data at the HS-8, HS-9, or HS-10 level in order to separate the environmentally-beneficial versions of good(s) within a given tariff line from the less environmentally-beneficial versions. However, the WTO and the World Customs Organization only requires standardization at the HS-6 level, making aggregation of data beyond this level impossible. Nevertheless, the actual negotiations may decide to allow for certain "ex-outs" so that the negotiated tariff concessions will apply only to the applicable tariff lines at the HS-8 level and beyond, for those WTO members that make these finer distinctions based on environmental criteria.

¹⁰⁵ The World Bank classifies low- and middle-income countries as developing countries. For the purposes of my analysis, upper-middle income countries that are part of the EU are not counted as developing countries. For more information about the World Bank's classification, see <https://datahelpdesk.worldbank.org/knowledgebase/articles/378834-how-does-the-world-bank-classify-countries>.

¹⁰⁶ Mexico has a 16.7 percent share of global exports, which is the second highest in the world. It accounts for over 85% of the total exports from developing countries of the product.

Figure 1. Breakdown of the Share of Global Exports for the List of 54 APEC Environmental Goods



As Figure 1 makes clear, the excluded developing countries lack major export capacity for most of the 54 environmental goods on the APEC list that form the baseline from which the WTO plurilateral negotiations will build. Besides the two tariff sub-headings already mentioned above, for only ten others does the collective share of global exports from the excluded developing countries exceed 10 percent. Again, when one examines the individual trade flow statistics of each of the ten additional environmental goods, one finds that the bulk of such exports are dominated by one or two major developing countries (*e.g.*, Indonesia for bamboo flooring panels; Mexico for pressure checking instruments; Indonesia and India for auxiliary plants for boilers). Outside of this handful of environmental goods, all developing countries are relatively insignificant players so far as exports are concerned.¹⁰⁷

Thus, most developing countries may have chosen not to participate in the negotiations because they have few export interests at stake with respect to environmental goods.¹⁰⁸ Whether they have a seat at the negotiating table or not matters little in terms of potential economic gain for their producers. Why then sign up to an agreement that requires one to further lower (or eliminate) tariffs on imports of environmental goods? For most developing countries, given the minimal gain for exporters, the costs appear to exceed the benefits.

Note that Figure 1 shows that the one developing country for which this narrative does not readily apply is China. For a large number of the environmental goods under negotiations, Chinese producers account for a significant share of global trade. For 13 of the 54 sub-headings, China ranks first as the world's leading exporter.¹⁰⁹ In several instances (*e.g.*, steam/vapor generating boilers, solar panels),

¹⁰⁷ This should not be altogether surprising given that the proposed lists primarily reflect environmental goods in which the submitting WTO Member(s) have a revealed comparative advantage. *See* Balineau & de Melo, *supra* note 15.

¹⁰⁸ This is particularly the case with developing countries that fall into the category of the least-developed countries (LDCs). A UNDP study found that the collective share of all LDCs' exports of environmental goods was 0.08% of the total global exports of environmental goods. This is significantly smaller than their collective share of total worldwide exports which is 0.8%. *See* UNDP, *Trade Negotiations on Environmental Goods and Services in the LDC Context* at 1, 4 (Aug. 2010) (discussion paper) (by Fahmida Khatun).

¹⁰⁹ Author's computation is based on the data compiled from the UN Comtrade database. This figure does not include a fourteenth tariff sub-heading (HS-6 code of 850490) for which the leading exporter is Hong Kong, China, and the second leading exporter is the People's Republic of China. Given that many exports from Hong Kong are likely to be re-exports from China, it is likely that China is also the leading exporter of this product line. If so, this would make China the leading exporter of more than one-quarter of the 54 environmental goods on the APEC list that will form the crux of the tariff lines from which the WTO plurilateral negotiations will build.

the Chinese share is greater than the total collective share of all other developing countries combined. China's strong manufacturing capabilities for environmental goods therefore explain why it stands out. Unlike other developing countries, China is willing to partake in the negotiations and sign up for binding tariff commitments in exchange for tariff concessions in key markets that will benefit its exporters.¹¹⁰

However, other countries that lack China's manufacturing strength and export competitiveness fail to see how any potential deal is worthwhile.¹¹¹ This is particularly the case for the least-developed countries (LDCs) which already have duty-free access for the vast majority of their exports to developed markets through preferential programs.¹¹² Most developing countries, therefore, are content to sit on the sidelines while the major economies work out the terms of a deal between themselves. This strategy affords them the maximum flexibility to address the import of environmental goods as they deem best, so long as it is within the confines of their existing WTO commitments.¹¹³ After all, why give up such flexibility when doing so yields little direct economic benefits for one's exports?

¹¹⁰ Note that another reason for China's participation is because of its interest to maintain the strength of the multilateral system in the face of the move towards preferential trade agreements by other major trading powers. See *Group of WTO Members Launch Talks on 'Green Goods,' THIRD WORLD NETWORK* (July 14, 2014), <http://www.twinside.org/title2/wto.info/2014/ti140706.htm>.

¹¹¹ The exception to this so far is Costa Rica. Costa Rica's decision to deviate from other developing countries is likely on account of two factors. First, its tariffs on the APEC list of 54 environmental goods is already very low (average tariff rate of 0.5%) and below that of many developed countries, with 90 of 95 tariff lines already duty-free. See Int'l Centre for Sustainable Trade and Dev., *Product Coverage and Tariffs in the Green Goods Initiative: Ensuring an Effective Outcome*, July 8, 2014 (by Mahesh Sugathan). Second, Costa Rica desires to demonstrate leadership on trade and environmental issues. See Willemien Viljoen, *The Davos Commitment to Liberalize Trade in Environmental Goods*, TRALAC (Mar. 5, 2014), <http://www.tralac.org/discussions/article/5357-the-davos-commitment-to-liberalise-trade-in-environmental-goods.html> (noting Costa Rican Trade Minister, Anabel Gonzalez, emphasis that trade liberalization on environmental goods can promote both economic development and environmental protection).

¹¹² For LDCs, the possibility that participants in the WTO plurilateral initiative would extend duty-free access to all WTO members poses a threat of preference erosion. To the extent that they have exports of environmental goods at stake which would not serve their interests. See Khatun, *supra* note 108, at 5 (noting that such losses could be compensated with Duty Free Quota Free market access programs).

¹¹³ In other words, a WTO member need only to observe its existing commitments on bound tariff rates for each environmental good. So long as it does so, it retains full flexibility to lower or raise applied tariff rates as it deems fit for each environmental good to support its policy objectives

B. APEC Liberalization is Sufficient

While the non-participation of the vast majority of developing countries may be due to their lack of export interests in the environmental goods being negotiated, this is not true for a handful of developing countries. A second explanation is required to account for their decisions not to participate. To understand their rationale requires a deeper analysis of the trade flows of their exports of environmental goods.

Table 1 presents the results of my analysis of the instances in which a developing country's total share of global exports of one of the 54 environmental goods under negotiation exceeds three percent. China and Costa Rica are excluded from the analysis, as they are the two developing countries that have already chosen to participate in the negotiations.¹¹⁴

From Table 1, we see that there are only a total of 25 particular instances where a developing country's share of global exports exceeds three percent for any of the 54 environmental goods. This again serves to highlight the weak export capacity of the excluded developing countries in environmental goods. Note that the three percent threshold that was selected was not particularly high; the threshold generally captures the top six to eight leading exporters.¹¹⁵ As a point of contrast, consider the fact that China alone exceeds the three percent market share threshold for 47 of the 54 environmental goods.¹¹⁶ Again, this highlights how different China's interests are from most other developing countries.

Note that I have limited my analysis to only the 54 environmental goods on the APEC list which the WTO has already announced will be included in the plurilateral initiative. It is possible that some developing countries do exhibit export strength in other environmental goods outside of these 54 tariff sub-headings. For example, Argentina, Indonesia, and Malaysia are all major exporters of biodiesel, which so far has not been included as part of the negotiations. Nevertheless, the analysis clarifies the overall point that most developing countries do not have much at stake in terms of exports of the environmental goods being negotiated.

What about those that do have some export interest at stake? What can we learn from analysing the 25 particular instances where a developing country does exhibit

¹¹⁴ Note that there is no instance where this holds true for Costa Rica. See *supra* note 111 for an explanation of why Costa Rica would nevertheless choose to participate in the WTO plurilateral initiative.

¹¹⁵ Note that my analysis treats the 28 EU countries as a single entity.

¹¹⁶ Author's computation based on information available in the UN Comtrade database.

some export strength? These 25 instances are divided among ten developing countries, which are primarily the larger emerging economies. Table 1 shows that for five of these countries – Brazil, the Philippines, South Africa, Ukraine, Vietnam – the share of exports exceeds the three percent threshold for only a single tariff sub-heading.

Table 1. Instances Where a Developing Country (Besides China) Has a Significant Share of Exports of an Environmental Good*

HS-6 Code	Product Description	Share	Rank
Brazil			
850300	Parts for electric motors and generators	3.3%	6th
India			
840420	Condensers for steam or vapour power units	4.9%	7th
840490	Steam, vapour generating boiler auxiliary plant parts	3.4%	8th
851420	Industrial electric induction or dielectric furnaces and ovens	4.5%	5th
851430	Industrial/laboratory electric furnaces and ovens, n.e.s.	4.5%	6th
903300	Parts and accessories (n.e.s.) for optical/electric instrument	6.0%	6th
Indonesia			
441872	Assembled bamboo flooring panels	5.2%	3rd
840420	Condensers for steam or vapour power units	5.9%	5th
Malaysia			
854140	Photosensitive/photovoltaic/LED semiconductor devices	5.2%	6th
901580	Other surveying, etc., excluding compasses, n.e.s.	3.4%	7th
903190	Parts and accessories for measuring/ checking instruments	5.1%	6th
903290	Parts and accessories for automatic controls	5.2%	5th
Mexico			
841199	Gas turbine parts	4.7%	5th
841919	Instantaneous/storage water heaters, not electric	16.7%	2nd
842139	Filtering or purifying machinery for gases, n.e.s.	7.3%	4th
902610	Equipment to measure or check liquid flow or level	3.2%	6th
902620	Equipment to measure or check pressure	5.9%	4th

902690	Parts of equipment to measure or check fluid variable	4.5%	6th
903289	Automatic regulating/controlling equipment n.e.s.	6.8%	5th
Philippines			
847990	Parts of machines and mechanical appliances having individual functions, n.e.s.	5.7%	6th
South Africa			
842139	Filtering or purifying machinery for gases, n.e.s.	13.1%	3rd
Thailand			
854390	Parts of electrical machines and apparatus, n.e.s.	6.8%	5th
901390	Parts and accessories of optical devices, n.e.s.	4.6%	6th
Ukraine			
840490	Steam, vapour generating boiler auxiliary plant parts	3.8%	7th
Vietnam			
850239	Electric generating sets	3.2%	5th

*The analysis is of the 54 environmental goods on the APEC list which will constitute the baseline from which the WTO plurilateral negotiations will build.

Note: In calculating ranking, the EU is considered as a single entity.

Source: Author's calculations based on information provided by the UN Comtrade database (2012 data).

In other words, even among the limited handful of developing countries that do possess some export interests, for several, their interest is concentrated in a single environmental good. Only five developing countries – India, Indonesia, Malaysia, Mexico, and Thailand – have export interests in more than one of the 54 environmental goods currently slated for negotiation.

For the 25 instances listed in Table 1, I next analyzed the destination markets of the export of the particular environmental good in which the developing country shows strength. Again, this information is compiled based on data available at the HS-6 level in the UN Comtrade database. This analysis yields an important insight regarding the impact of the parallel APEC negotiations on the dynamics of developing country participation in the WTO plurilateral initiative.

First, let us consider the five developing countries that have export interests in multiple environmental goods. Four of the five (*i.e.*, Indonesia, Malaysia, Mexico, and Thailand) are APEC members. The only outlier is India. This suggests that with the exception of India, the other four developing countries are not necessarily standing still on the side-lines, simply watching while their export competitors are negotiating lower tariffs. Instead, they too are engaged in active negotiations to lower tariffs for their export interests – but doing so simply at a forum outside of the WTO (*i.e.*, APEC).

Why might such countries choose to engage in negotiations only at APEC and not the WTO? This is where the analysis of the destination of a country's exports of a particular environmental good proves helpful. Consider, for example, the case of Malaysia. One of its major exports of an environmental good is of photovoltaic cells for solar panels; this product is covered under the WTO environmental goods agreement through the HS-6 code of 854140. In 2012, Malaysian exports of this HS-6 sub-heading exceeded \$2.5 billion. The bulk of these exports - over 82 percent – were destined for the markets of other APEC economies.¹¹⁷ Of the top nine export destinations for Malaysian photovoltaic cells, eight were APEC economies. The only non-APEC trading partner that was a key export destination is the EU.

Given this backdrop, negotiating lower tariffs through APEC can go a long way toward meeting the needs of Malaysian exporters of photovoltaic cells. One might think that they may pressure their government to take part in the WTO negotiations nevertheless, so as to gain lower tariffs in the EU market. But applied tariff rates for the relevant tariff lines in the EU are already very low.¹¹⁸ Consequently, Malaysia views participation in the APEC negotiations as sufficient. There is little additional benefit to be gained from participating in the WTO negotiations. Moreover, as I will discuss in the next part ¹¹⁹, Malaysia can “free ride” on the efforts of others to secure whatever minimal additional benefits remain.

The same situation holds true for other developing countries that are participating in the APEC negotiations but not the WTO's. Consider Mexico's situation, which is even more extreme. As Table 1 shows, of the developing countries that are not participating in the WTO plurilateral initiative, Mexico has the widest breadth of environmental goods for which its global export share exceeds three percent. In fact, among developing countries, Mexico's export strength is second only to

¹¹⁷ Author's calculation based on information provided by the UN Comtrade database.

¹¹⁸ This is based on information provided in the EU's TARIC database for HS-10 codes 8541401000, 8541409010, 8541409029, 8541409039, and 8541409090.

¹¹⁹ See *infra* Part IV.C.

China's (although it lags far behind China). This might lead one to think that Mexico too would care to participate in the WTO negotiations to lower tariffs for its exports. But when one examines the trade flows for the Mexican exports, one discovers why this is not the case.

Table 2 presents my findings from an analysis of the export destinations of the seven environmental goods for which Mexico has a noticeable export share. In all seven instances, the leading export destination is the United States. As Table 2 illustrates, depending on the product, the American market accounts for anywhere from 85% to 99% of total Mexican exports of the product.¹²⁰ Because of the North American Free Trade Agreement (NAFTA), Mexican exports already have duty-free access to the U.S. market. In fact, NAFTA marked the start of an aggressive strategy by Mexico to conclude FTAs with its major trading partners. Besides NAFTA, Mexico has also concluded FTAs with the E.U., Japan, and several countries in Central and South America.¹²¹ This means that Mexican exporters already have duty-free exports to most of their other major export markets outside of North America as well.

In addition, the APEC initiative will provide Mexican exporters low tariff access to export destinations in Asia where they do not already have duty-free access (*e.g.*, China). But even these are not vital markets for Mexican producers of environmental goods. As Table 2 suggests, the vast majority of its exports are destined for the U.S. However, to the extent that Mexican producers do desire further tariff liberalization, participation in the APEC initiative should more than suffice.

Table 2. Export Destinations of Select Mexican Environmental Goods*

HS Code	Description	Share of Total Mexican Exports		Top Non-APEC / Non-FTA Export Market	
		U.S.	NAFTA	Name	Share
841199	Gas turbine parts	99.3%	99.3%	Ecuador	0.03%
841919	Instantaneous/storage water heaters, not electric	88.2%	88.6%	Israel	0.08%

¹²⁰ Author's calculations based on information provided by the UN Comtrade database.

¹²¹ For a more detailed discussion of Mexico's strategy and its various trade agreements, see M. Angeles Villarreal, *Mexico's Free Trade Agreements*, FEDERATION OF AMERICAN SCIENTISTS (July 3, 2012), <http://fas.org/sgp/crs/row/R40784.pdf>.

842139	Filtering or purifying machinery for gases, n.e.s.	85.3%	90.6%	Brazil	0.41%
902610	Equipment to measure or check liquid flow or level	95.8%	96.5%	Brazil	0.95%
902620	Equipment to measure or check pressure	77.4%	77.6%	Brazil	1.28%
902690	Parts of equipment to measure or check fluid variable	94.1%	94.2%	Cuba	0.29%
903289	Automatic regulating/controlling equipment n.e.s.	95.3%	96.1%	Brazil	0.07%

*The analysis is of those environmental goods on the list of 54 goods which will form baseline from which the WTO plurilateral negotiations will build for which the share of Mexican exports exceeds three percent (see Table 1).

Source: Author's calculations based on information provided by the UN Comtrade database

To understand why this is the case, examine the last two columns of Table 2. I analysed the export flows for each of Mexico's key environmental goods to determine what country is the largest export destination which: (a) does not have an existing FTA with Mexico; and (b) is not an APEC member. In several instances, that economy is Brazil. For all seven instances, the country is one that is not a participant in the WTO plurilateral initiative. The final column lists the percentage of total Mexican exports of that good that is destined for this export market. This share is insignificant. It ranges from barely over 1% (for equipment to measure or check pressure) to less than 0.1% (for gas turbine parts and non-electric water heaters).

Table 2 highlights the fact that the export markets of non-APEC economies with which Mexico lacks a FTA are not of great importance to Mexican exporters. For Mexico, the work of eliminating/lowering tariffs for its key environmental goods has already been largely achieved through its FTAs. Those markets which are not yet open will soon be as a result of the APEC initiative. Consequently, as far as tariff liberalization is concerned, for Mexico there is little to be gained from the WTO talks. Again, why bother to join the WTO talks when participation in the APEC negotiations is more than sufficient?

What about the five other developing countries noted in Table 1 with a significant export interest but only for a single environmental product of the 54 to be included in the WTO negotiations? Of those five, two – the Philippines and Vietnam – are also APEC members. An examination of the export flows of their key product of interest yields a similar result to that of Mexico (discussed above). For the Philippines, the key export product of interest falls under the HS-6 sub-heading of 847990.¹²² The top six export destinations for the product are all APEC economies.¹²³ Collectively, the APEC economies account for nearly 90 percent of all Filipino exports of the product.¹²⁴ Again, the APEC initiative is sufficient for tackling any high tariff peaks that Filipino exports still face. Therefore, it will have little interest in the plurilateral initiative at the WTO.

For Vietnam, the key exports of interest are electric generating sets, which fall under the HS-6 sub-heading of 850239. Three of the top four destinations (U.S., Thailand, and China) for Vietnamese exports that fall under this tariff sub-heading are APEC countries. The E.U. is the sole exception.¹²⁵ Altogether, exports to APEC economies account for over 60% of Vietnamese exports of the product.¹²⁶ While this share is smaller than the earlier examples, it is still significant. Again, for Vietnam, the benefits of gaining additional lower tariffs for its limited set of environmental goods in non-APEC export markets (*e.g.*, the E.U.) is likely not worth the cost of further lowering tariffs for all other environmental goods which Vietnam does not export.¹²⁷ APEC liberalization is more than sufficient to meet its producers' interests.

To summarize, the existence of an alternative negotiating forum, APEC, has a major impact on the calculus of several developing countries. Of the ten

¹²² This captures a range of parts for machines and mechanical appliances with individual function that are not otherwise specified elsewhere in Chapter 84 under the HS-4 code 8479. For example, this includes parts of waste disposal systems for solid waste management and parts for carbon capture systems. See Balineau & de Melo, *Stalemate at the Negotiations on Environmental Goods and Services at the Doha Round*, FOUNDATION FOR INT'L DEV. STUDY AND RESEARCH, 42-3, Working Paper No. 28 (Oct. 2011), <http://www.ferdi.fr/sites/www.ferdi.fr/files/publication/fichiers/Br65-G.Balineau%26deMelo.pdf>; Sugathan, *supra* note 33, at 15.

¹²³ Author's calculation based on information provided by the UN Comtrade database.

¹²⁴ *Id.* This percentage includes those exports whose destination is Asia but has not been further specified as part of the total. If those are excluded from the total, then the share rises to over 93 percent.

¹²⁵ Unlike Mexico, Vietnam does not have an FTA with the E.U.

¹²⁶ Author's calculation based on information provided by the UN Comtrade database.

¹²⁷ This is especially the case given the prospect for Vietnam to enjoy benefits through "free riding" on the negotiating efforts of others, as will be discussed in the next part.

developing countries besides China that export one or more of the 54 environmental goods in significant quantities, six are APEC members. As the analysis in this part has shown, for these six countries, the APEC initiative goes a long way towards addressing their exporters' interests. Signing on to the WTO initiative will require that they commit to lower tariffs further, but without gaining that much more beyond what they expect to secure in the APEC negotiations. Under such conditions, they naturally ask why they should bother. Unless the scope of the WTO negotiations expands to encompass additional goods of interest or to address non-tariff barriers, their decision to forego the WTO talks appears to be rational.¹²⁸ Negotiating lower tariffs via APEC, more than suffices.

C. *The Most-Favoured Nation Benefit*

So far, the two explanations given, emphasize the fact that: (1) many developing countries lack strong export capacity in most environmental goods, and (2) among those possessing export capacity, many are already involved in the parallel APEC negotiations through which they can obtain tariff concessions in several of their key export markets. This still leaves two outstanding questions: First, what about those developing countries that are not part of APEC but have export interests? Second, what about export markets outside of APEC? Even for those that are APEC members, why would they not participate in the WTO environmental goods negotiations simply to obtain preferential terms for those markets?

The answer to both questions turns on a structural feature of the WTO process – the MFN principle. Any WTO member that participates in the WTO environmental goods negotiations must extend any concessions on a MFN basis. In other words, even though the negotiations are being conducted plurilaterally among a subset of WTO members, the concessions negotiated must be extended to all WTO members, including those that chose not to participate in the negotiations. Unlike a free trade agreement, with a sector-specific plurilateral agreement, the concessions cannot be limited only to the participants.

Therefore, regardless of whether a WTO member participates in the negotiations or not, it stands to gain. A country that chooses to exclude itself from the negotiations can “free ride” on the concessions obtained by others for which it is an incidental beneficiary. As long as it is relatively confident that the bargaining done by others will lead to an acceptable outcome, it can enjoy the gains without having to endure the pain of making any tariff concessions itself.

¹²⁸ See Part VI *infra* for a discussion of potential ideas for expanding the product and/or issue scope. At present, the WTO negotiations aim to start by focusing on the same list of 54 environmental goods as the APEC list.

As others have discussed, with all of the key producers of environmental goods participating in the WTO initiative, the cost associated with free riding is not high.¹²⁹ As shown earlier in Figure 1, for any of the 54 tariff sub-headings, the vast majority of exporters of the product are participating in the WTO plurilateral initiative. Nevertheless, the opportunity to profitably engage in free riding still exists. To examine how this might work, consider the following two scenarios.

First, consider a country such as Brazil. It is not an APEC member, nor has it entered into preferential trade agreements with many of its key trading partners. As Table 1 highlighted earlier, Brazil does have an export interest in one particular item included in the list of 54 environmental goods to be negotiated in the agreement – electric motors and generators (HS-6 code 850300). These are dual-use products that can be used for wind power and carbon capture and storage. Brazilian exports of this tariff line ranked sixth in the world.¹³⁰ The key export destinations for this product for Brazil are the United States (70%) and the European Union (15%).¹³¹ Why then would it not take advantage of the WTO plurilateral initiative to gain lower tariffs for its exports of environmental goods?

The answer lies in the fact that Brazil assumes that it can gain the benefits of lower tariffs and improved market access without direct participation. The other key exporters of this tariff sub-heading are China, the E.U., Japan, and the United States. All are participants in the WTO plurilateral initiative. Lowering U.S. tariff rates on electric motors and generators will be an important priority for China, the E.U., and Japan alike.¹³² Brazil can count on this set of other countries to negotiate with the U.S. to lower its rate for this tariff line; it need not ante up anything itself. But because the U.S. needs to apply the lowered rate on a MFN basis, Brazilian exporters too will enjoy the benefits of whatever concession the Europeans, Chinese, and Japanese are able to extract from the Americans. Brazil can engage in classic free riding.

The same calculation holds true for another non-APEC economy – South Africa. Its key environmental good of interest is filtering or purifying machinery for gases (see Table 1). The major destinations for South African exports of this good are the E.U. and the U.S. Again, other key exporters of the good (the E.U., U.S., and China) are participants in the WTO plurilateral initiative. Like Brazil, South Africa can assume that these other parties will secure lower tariffs to the European and

¹²⁹ See, e.g., Howse, *supra* note 60.

¹³⁰ Note that because the data is at the HS-6 level, it is unclear as to what the percentage of Brazilian exports is for environmental purposes, as opposed to other dual-use purposes.

¹³¹ Author's calculations based on information provided by the UN Comtrade database.

¹³² *Id.* Note that the U.S. market is the largest destination for Chinese and European exports of this tariff line and the second largest is Japan.

American markets. Again, it can free ride off the concessions obtained by others because they must be applied on a MFN basis. It need not join the talks directly.

Second, consider the scenario of an APEC member that exports environmental goods. Why would they not join the WTO talks in order to gain lower tariffs to non-APEC markets (such as the E.U.) or even lower tariff rates in APEC markets?¹³³ The answer, not surprisingly, is similar. As hinted at earlier, APEC members can also free ride on the negotiating efforts of others to secure such benefits without anteing up concessions themselves.

Consider again the example discussed earlier of Vietnam's exports of electric generating sets (HS-6 code 850239). As noted, 60% of such exports are destined for APEC markets. Why would Vietnam not partake in the WTO plurilateral initiative to secure lower tariffs for the 40% of its exports destined for non-APEC markets? Of these, the most significant is the E.U. which accounts for over one-quarter of Vietnamese exports of goods under this sub-heading. As the E.U. is not part of APEC, the only forum through which the E.U. is negotiating lowering its tariffs for this environmental good is the WTO plurilateral initiative. The reason that Vietnam does not join such talks is because it can count on others to do its bidding for it. The other key exporters for this tariff sub-heading are the U.S. and Japan, both of which are directly involved in the WTO negotiations. Whatever benefits the Americans and Japanese secure from the Europeans will have to be extended to Vietnamese exporters as well. Vietnam can afford to sit on the sidelines while the other three parties negotiate.

The evidence thus suggests that the price of eschewing the WTO plurilateral negotiations may not be all that costly. As long as there is another WTO member that will also seek concessions on that product, the rational choice is for the excluded party to free ride on the other party's bargaining. Even if it thinks that the other party's bargaining efforts will lead to a sub-optimal outcome, it will nevertheless succumb to the free-rider approach if it believes that the marginal difference to be gained from its direct participation is not larger than the cost of signing up to the vast array of tariff concessions required of participants.

Furthermore, the data analysis reveals that in every single instance where a developing country has an export interest in any of the 54 products as indicated in Table 1, there are at least two participants in the WTO plurilateral negotiations that have a significant export interest in that product such that it will seek tariff

¹³³ Recall that the APEC initiative only requires that APEC members lower applied tariff rates to five percent, but does not require their full elimination. See *supra* note 55 and associated text.

concessions for it.¹³⁴ This finding should not be at all surprising, given that the participants collectively account for over 85 percent of all trade in environmental goods and their export interests are widely dispersed.¹³⁵ The fact that more than one participant exists in every single instance also minimizes the odds of any developing country becoming too dependent on the bargaining efforts of a single participant.

The decision to extend tariff benefits from the agreement on a MFN basis to non-participants, therefore, contributes to keeping developing countries away from the negotiations. Why not wait to see what can be gained by free riding on the negotiating efforts of others first before deciding whether it is worthwhile to join the talks?

D. The Predominance of Intra-Developing Country Trade (An India-Specific Explanation)

The three explanations for non-participation posited so far are ones which are cross-cutting and not mutually-exclusive. Each is meant to apply to a range of the non-participating developing countries, but none apply to all. For a given developing country, its reasoning for not joining the WTO plurilateral initiative likely draws from one to three of the explanations given.¹³⁶

This last explanation, based on what can be discerned from my research, is one which is unique to India. It is possible that its applicability may widen over time to encompass other developing countries as trade flows further evolve. For that reason, and because of the outsized role India plays in WTO negotiations, it is worth discussing.

The explanation itself is conceptually simple. In recent years, international policymakers have given much attention to the rising importance of trade within developing countries (*i.e.*, “South-South” trade in the old parlance).¹³⁷ One possible

¹³⁴ I have defined a participant in the WTO plurilateral environmental negotiations as having a significant interest in the product if its share of global exports of that product exceeds ten percent. Of course, it is possible for a country to have a significant interest with smaller share, but I adopt this threshold so as to be conservative in my assumption that the participant will actually have enough of a dominant market position so as to bargain and seek concessions for that product.

¹³⁵ See *supra* note 11; See Figure 1.

¹³⁶ Note that I also do not rule out the possibility that the two conventional explanations may also be in play. My argument is simply that they are not complete.

¹³⁷ See, *e.g.*, News Release, World Economic Forum, Fast Expanding South-South Trade Becoming a Vital Driver of Global Growth (Nov. 13, 2011); Pascal Lamy, WTO Director-General, Multilateralism is at a Crossroads, Speech at Humboldt-Viadrina School of

explanation for non-participation from developing countries is that most of their trade is with each other. If none of them are participating in the talks, then there is little to be gained directly in terms of trade liberalization. After all, no one will be offering much in the way of concessions to be enjoyed by the others. The issue then is one of a collective action problem.

When examining the trade flows of developing countries for the 54 HS-6 sub-headings in the WTO negotiations, this hypothesis was also tested. Overall, I found that this explanation does not carry much weight. Most exports of environmental goods produced in developing countries are destined for developed, rather than developing countries. For example, as highlighted earlier in Table 2, most of Mexico's exports of environmental goods are destined for its NAFTA partners.¹³⁸ Consequently, what has been emphasized so far are other explanations (*i.e.*, gains secured through APEC negotiations, MFN application) for non-participation.

However, the one country whose export patterns of environmental goods differ is India. Recall from Table 1 that among developing countries, India has the third highest number of instances where its global share of exports of one of the 54 environmental goods included in the WTO talks exceeds three percent (lagging behind only China and Mexico). In Table 3, the destinations of India's key environmental goods exports have been broken down (*i.e.*, the five listed earlier in Table 1 where its share exceeds three percent).

Table 3 shows that for four of the five key environmental goods, the vast majority of Indian exports are destined for countries not participating in the WTO environmental goods negotiations. This is in stark contrast with Mexico (see Table 2), where most of its goods were being exported to developed countries participating in the talks and with which it already had a FTA or an arrangement through APEC. Whereas tariff concessions made by participants in the WTO plurilateral initiative matter quite a bit for Chinese, Mexican, or Filipino exporters of environmental goods, the same is not true for Indian exporters.

Governance (June 26, 2012); News Release, UNCTAD, South-South Trade Continues to Increase, UNCTAD Statistics Show (Dec. 17, 2013).

¹³⁸ See also the instances discussed in Part III.C *supra*.

Table 3. Export Destinations of Select Indian Environmental Goods*

HS Code	Description	Share of Total Indian Exports			Top Non-APEC / Non-FTA Export Market	
		WTO EG (No FTA)	WTO EG (FTA)	All Others	Name	Share
840420	Condensers for steam or vapour power units	3.3%	0%	96.7%	Saudi Arabia	22.3%
840490	Steam, vapour generating boiler auxiliary plant parts	11.8%	0.3%	87.9%	Saudi Arabia	14.7%
851420	Industrial electric induction or dielectric furnaces and ovens	11.1%	0.4%	89.5%	Saudi Arabia	12.1%
851430	Industrial/laboratory electric furnaces and ovens, n.e.s.	8.4%	0.3%	91.3%	Nigeria	8.8%
903300	Parts and accessories (n.e.s.) for optical/electric instrument	21.4%	46.6%	32.0%	Saudi Arabia	1.7%

*The analysis is of those environmental goods on the list of 54 goods which will form baseline from which the WTO plurilateral negotiations will build for which the share of Indian exports exceeds three percent (see Table 1).

Source: Author's calculations based on information provided by the UN Comtrade database

As an example of how much Indian trade in environmental goods is dependent on exports to developing (instead of developed markets), consider steam, vapour generating boiler auxiliary plant parts (HS-6 code 840490). India exported over \$32

million worth of such items in 2012. The top fifteen export destinations were all developing countries.¹³⁹ Of these, only one (China) is a participant in the WTO negotiations. The other fourteen - which include countries such as Indonesia, Malaysia, Saudi Arabia, Russia, and Zimbabwe – are not. Moreover, note that the share of exports destined for the largest non-FTA, non-APEC member (in this case, Saudi Arabia) is greater than the combined share of exports to all of the 14 members participating in the WTO environmental goods agreement.¹⁴⁰ This is also the case with four of the other five key environmental goods examined.

Altogether, in only one instance does India's pattern of trade resemble that of the other developing countries that manufacture environmental goods but are staying away from the WTO plurilateral negotiations.¹⁴¹ In the other instances, Indian exports are destined primarily toward a diverse set of developing countries in sub-Saharan Africa and the Persian Gulf.¹⁴² In such instances, what happens in the WTO plurilateral negotiations is not of great relevance to its exporters. As long as these other countries are not part of the WTO negotiations and therefore not on the hook to liberalize tariffs, Indian exporters do not stand to gain as much from their country's participation. Hence, India too is behaving consistently with its interests in staying out of the talks. Beyond maintaining political solidarity with fellow developing countries, India also has an economic rationale for not forging ahead of the pack.

Overall, though, the collective action problem is not a major reason for why most developing countries are not participating in the WTO environmental goods negotiations. India remains the exception, for now. But this analysis highlights how difficult it will be to draw India – the other major emerging power besides China with a huge impact on emissions – into the negotiations. So long as other developing countries stay out (for the various reasons discussed above), India will find it rational to remain on the side-lines.

¹³⁹ This information was obtained from the UN Comtrade database.

¹⁴⁰ Author's calculation based on information supplied by the UN Comtrade database.

¹⁴¹ This is with respect to parts and accessories for optical/electrical instruments (HS-6 code 903300). Note, however, that in this instance, nearly half of its exports are destined for Singapore, with which India has signed a preferential trade agreement through the Trade in Goods Agreement of the ASEAN-India Free Trade Agreement.

¹⁴² For example, these destinations account for over two-thirds of Indian exports of condensers for steam / other vapour-power units (HS-6 code 840420) and two-fifths of Indian exports of induction/other dielectric-loss furnaces and ovens (HS-6 code 851420). Author's calculation based on information supplied by the UN Comtrade database.

V. WHY THE ABSENCE IS NOT NECESSARILY TEMPORARY (AND THE ITA ANALOGY DOESN'T HOLD)

If the explanation above is correct, then this raises two related questions. First, can the absence of developing countries be merely a temporary phenomenon? After all, the shift toward plurilateralism does not foreclose the possibility of entry into the agreement at a later date by developing countries. It simply allows for one group of countries to set the rules first, while leaving the door open for others to join later. The question is whether greater numbers of developing countries will do so? If so, then the move toward plurilateralism may not be as divisive as suggested above.

Proponents of the WTO moving toward the plurilateral approach point to the ITA as a successful example of where the rules set forth in a plurilateral agreement have come to be adopted widely by WTO members.¹⁴³ As is true of environmental goods, negotiating tariff reductions on information technology (IT) products proved difficult with all WTO members involved.¹⁴⁴ Instead, the ITA was first negotiated by only 29 participants. The vast majority of these were developed countries. Of the original signatories, only two were developing countries: Indonesia and Turkey.¹⁴⁵

In subsequent years, however, the number of WTO members that are signatories to the ITA has grown very quickly. By 2014, the total reached 78, or nearly half of the WTO's total membership.¹⁴⁶ Today, the signatories collectively account for approximately 97 percent of world trade in information technology products.¹⁴⁷ More importantly, a large number of the latter signatories are developing countries. Months after the ITA was concluded, several developing countries joined, including Costa Rica, India, Malaysia, and Thailand.¹⁴⁸ Other developing countries such as China, Russia, Ukraine, and Vietnam joined the ITA in conjunction with their WTO accession. Yet, others, such as Honduras, Morocco, and Nicaragua, joined as a result of their free trade agreements with the United States.

¹⁴³ See, e.g., Alan H. Price, Timothy C. Brightbill, Nova J. Daly and Adam M. Teslik, *Fourteen WTO Members Announce Plan to Negotiate Environmental Goods Agreement*, WILEY REIN (Jan. 31, 2014), <http://www.wileyrein.com/publications.cfm?sp=articles&id=9388>.

¹⁴⁴ WORLD TRADE ORGANIZATION, 15 YEARS OF THE INFORMATION TECHNOLOGY AGREEMENT: TRADE, INNOVATION, AND GLOBAL PRODUCTION NETWORKS 11-6 (2013). [hereinafter WTO, 15 YEARS].

¹⁴⁵ *Id.* at 21, notes 2 & 59.

¹⁴⁶ *Russia Joins WTO's Information Technology Agreement*, WORLD TRADE ORGANIZATION (Sept. 13, 2013), http://www.wto.org/english/news_e/news13_e/ita_13sep13_e.htm.

¹⁴⁷ *Information Technology Agreement*, WORLD TRADE ORGANIZATION, http://www.wto.org/english/tratop_e/inftec_e/inftec_e.htm.

¹⁴⁸ WTO, 15 YEARS, *supra* note 144, at 16-8 & n.69.

One may posit that a similar expansion among developing countries may be possible in the case of environmental goods. However, this optimism may be unfounded. In particular, two important differences exist between IT and environmental goods, even though both sets consist largely of high-tech products.

The first is that the global supply chain for IT goods is much more disaggregated than is the case at present with environmental goods. This is on account of differences in the marginal gain from production disaggregation across the two product categories. Once transportation, logistical, and other supply chain management costs are taken into account, the producer of a cell phone or a laptop reaps greater rewards from disaggregation than a producer of a wind turbine or wastewater treatment equipment. Consequently, more of this production is done across borders. While components, such as semiconductors, are found in both IT and environmental goods, such components are covered under the ITA rather than the environmental goods agreement.

The ability to disaggregate production easily creates opportunities for a developing country to specialize in the performance of a particular task in the supply chain and capture a certain proportion of its value. This possibility, in turn, raises the appeal of signing on to a sector-specific trade agreement such as the ITA. For developing countries, this promise has borne fruit. From when the original ITA was negotiated in 1996 to 2010, the share of exports of IT products from developing countries grew from 31 percent to 64 percent.¹⁴⁹ Developing countries in Asia, in particular, are at the heart of various global production networks in IT goods. Their decision to sign on to the ITA was reflective of their desire to not be left out of such networks.¹⁵⁰

The question is whether or not developing countries expect a similar disaggregation to occur with environmental goods in the coming decades. If so, then some may follow suit out of a fear of being left behind. But if they view the emergence of global production networks as less likely, then they may instead choose to continue remaining on the side-lines.

A second difference is in the market dynamics and prevalence of adoption between the two markets. The use of IT goods has become widespread in developing countries. Mobile phones are but one example. Demand for such products is largely consumer driven. Even if a developing country itself does not expect to be

¹⁴⁹ *Id.* at 82.

¹⁵⁰ For more information about the important role of the ITA in facilitating global production networks and its benefits for developing countries, see *id.*; Stephen J. Ezell, *The Benefits of ITA Expansion for Developing Countries* (The Information Technology & Innovation Foundation, Washington), Dec. 2012, at 1-2.

part of the global production network for an IT good, it may nevertheless sign on to the ITA for consumer gains. First, the ITA contributes to lower tariffs; if passed on through lower prices, this will then spark greater consumer adoption and improve consumer welfare. Second, greater consumer adoption may lead to positive second-order and third-order effects that benefit the economy overall.¹⁵¹

The same dynamic does not necessarily hold true with environmental goods. Importantly, the cost of adopting several renewable technologies still exceeds that of traditional energy sources.¹⁵² Consumers are not naturally inclined to adopt such goods, as was the case with IT goods, unless government subsidies exist to help offset the cost differential. However, many developing countries are not in a position to offer such subsidies. Without them, consumption of environmental goods will likely remain low. Committing to liberalizing trade in this area will not lead to the types of consumer gains and second-order economic benefits of the form associated with IT goods.

Given these differences, it is unrealistic to believe that a significant number of developing countries will find it attractive to sign a plurilateral environmental goods agreement soon after it is concluded as they did with the ITA. With the ITA, even though very few developing countries signed on originally, several were already expressing interest.¹⁵³ The same dynamic does not hold true at present with environmental goods. Instead, the current position of many of the developing countries is likely to remain entrenched for some time to come.

If this is the case, then the most likely scenario is one in which most of the major developing countries will continue to choose to remain outside of the WTO environmental goods negotiations. At least for the near-term, the various reasons discussed in Part IV will continue to trump other factors. A rapid rush to adoption after the sectoral agreement is concluded, as was the case with the ITA, is unlikely on account of differences between IT and environmental goods. This means that if the negotiations proceed as-is, the most likely outcome is a fragmentation among countries with respect to the liberalization of trade in environmental goods.¹⁵⁴

¹⁵¹ For example, the widespread adoption of mobile phones in some developing countries has led to mobile payment options that increase the opportunities for domestic service providers to supply their service to remote populations.

¹⁵² See, e.g., Severin Borenstein, *The Private and Public Economics of Renewable Electricity Generation*, 26 J. ECON. PERSPECTIVES 67 (2012).

¹⁵³ This included Brunei Darussalam, the Czech Republic, India, Malaysia, Mexico, the Philippines, and Thailand. See WORLD TRADE ORGANIZATION, *supra* note 144, at 16.

¹⁵⁴ An example of a WTO plurilateral agreement that has seen limited uptake by developing countries is the Agreement on Government Procurement. See World Trade Organization,

VI. THE POTENTIAL COST OF EXCLUSION

A second related question is whether the absence of developing countries matters. When viewed from a trade perspective, three implications stand out. First, it signals the fact that the creation of global trade rules continues to be largely an enterprise dominated by developed countries. While much of the scholarship to date has focused on the role of FTAs among regional trading partners (*e.g.*, TPP, TTIP), sector-specific plurilateral agreements concluded under the WTO's auspices are also likely to contribute to a growing fragmentation of global trade rules.

Second, it also highlights the fact that among developing countries, China stands apart. For all the talk of the growing importance of developing countries in the global trade regime, China's interests are fundamentally different than those of other developing countries. As Part III indicated, for many goods, its export prowess is significantly greater than that of its other developing country counterparts. The environmental goods negotiations experience suggests that so long as the WTO can convince the Chinese and major developed countries to sign on to its negotiating initiatives, it can continue to play a major role in shaping global trade rules, even without the support of the rest of its membership. However, such an approach may carry long-term consequences for the institution, particularly in terms of its political support within the developing world.

Finally, the experience suggests that the major developed countries are willing to continue engaging with the WTO as a negotiating forum, even in the face of a stalled Doha Round. Developed countries may engage in forum-shifting, as was the case with environmental goods, and they may invest more heavily in FTAs such as TPP and TTIP. Ultimately, however, the WTO presents certain benefits, especially with respect to dispute settlement, that make it an attractive forum for setting global trade rules. This willingness to engage with the WTO will be highest with respect to sector-specific agreements for which the developed countries will want to engage with a broader set of countries beyond its FTA partners. Issues involving global public externalities, such as the environment, are a prime candidate, but not necessarily the only ones. However, for the WTO to engage with such issues, it will likely need to embrace a piecemeal, issue-specific approach. Therefore, institutionally, the WTO faces an interesting choice as to whether it will be willing to abandon the notion of a multilateral "single undertaking" more widely beyond environmental goods. While this may not be the WTO's preferred approach, reconstituting the Doha Round as a series of plurilateral negotiations may be necessary given the long-standing negotiating impasses.

But what about when viewed from an environmental perspective? After all, the WTO environmental goods agreement carries a two-prong mandate – to facilitate trade and to promote “the positive role that trade can play in environmental protection.”¹⁵⁵ When it comes to the latter, the impact of developing countries’ non-participation is more difficult to discern. The negative cost associated with their absence, I argue, will turn on a series of policy choices to be made in the future, both by those taking part in the negotiations and those excluded. Part VI explores this issue in greater depth.

A. The Absence of Key Emitters

The potential positive contribution that a WTO agreement on environmental goods toward global initiatives to fight climate change stems from the following mechanism: A new WTO agreement requires those WTO members that partook in the negotiations to lower tariffs on certain environmental goods. Lower tariffs reduce costs, leading to positive consumption and production effects as far as the environment is concerned. Consumption effects arise from the substitution away from “brown” goods to “green” goods.¹⁵⁶ Production effects arise because higher profits for producers (on account of lower costs and higher consumption) generate greater investment and innovation in environmental products. A virtuous cycle arises as a result of trade liberalization.

How much does a shift toward a plurilateral approach lower the potential positive impact? This answer depends on how much the nations that now opt out of the negotiations matter for global environmental initiatives. A problem arises on account of a partial mismatch between those countries that are most active in the production and trade of environmental goods and those countries whose actions are deemed most critical for climate change and other global environmental initiatives. The WTO plurilateral negotiations attract the world’s largest traders, but not necessarily its largest emitters.

¹⁵⁵ *WTO Environmental Goods Negotiations Launch Announcement*, *supra* note 67.

¹⁵⁶ Some past studies have differentiated the products on the list of environmental goods into two categories: (1) environmental technologies/ industrial goods for environmental management, and (2) environmentally-preferable products (EPP). See, e.g., Hamwey CTBF Briefing Note, *supra* note 14; Howse & van Bork, *supra* note 25, at 2. The mechanisms through which the consumption effects positively contribute to environmental protection differs depending on the type of good. For EPPs, there is a direct benefit achieved from the substitution, away from non-EPPs to EPPs; this substitution results from the change in the relative price of an EPP versus non-EPP. For environmental technologies and industrial goods used for environmental management, however, the benefit is achieved in through the deployment of such products/ technologies so that a “brown” process turns “green” (e.g., wastewater goes from being untreated to treated).

If one examines the list of countries that constitute the top thirteen emitters of CO₂ (which collectively account for nearly 70 percent of the world's CO₂ emissions), one finds that only seven of the thirteen are participants in the new plurilateral negotiations. The six important carbon emitters that have chosen to not partake in the WTO talks include India (3rd), Russia (4th), Indonesia (tied for 9th), Mexico (tied for 9th), Brazil (tied for 12th), and Saudi Arabia (tied for 12th).¹⁵⁷ Note that of this list, three are also not participants in the APEC negotiations, and therefore not bound to make any commitments whatsoever.¹⁵⁸

The same story is true if we examine the list of the top emitters of non-CO₂ gases. These include greenhouse gases such as methane, nitrous oxide, and other fluorinated greenhouse gases that also contribute significantly to climate change. Based on projections of the U.S. Environmental Protection Agency for 2015, the top ten countries emitting these non-CO₂ gases will account for slightly more than half of all global emissions.¹⁵⁹ Of the top ten emitters, only the two largest (China and the United States) are participants in the WTO's environmental goods negotiations. The remaining eight – Brazil, Russia, India, Indonesia, Nigeria, Mexico, Angola, and Argentina – are all developing countries that are not part of the plurilateral negotiations. If one expands the list to examine the top twenty emitters, the situation is no different.¹⁶⁰ Only five are participants in the negotiations.¹⁶¹ Fifteen of the top twenty emitters of non-CO₂ gases deemed harmful for climate change will not be making any binding WTO commitments to lower tariffs for environmental goods.

In short, the WTO negotiations are failing to draw in several countries where increased adoption of environmental goods is most critical for combatting climate change. By taking this set of important countries out of the mix, the positive environmental impact stemming from a WTO plurilateral agreement is likely to be diminished. As Howse and van Bork have noted, “in developing countries, significantly lowering tariffs on established environmental technologies – where such tariffs are high – could make a substantial difference not only to economic

¹⁵⁷ The rankings are based on the 2012 statistics found in the EDGAR database, created by the European Commission and the Netherlands Environmental Protection Commission.

¹⁵⁸ These are India, Brazil, and Saudi Arabia.

¹⁵⁹ Author's calculations based on the data annexes provided by U.S. Environmental Protection Agency, *Global Anthropogenic Non-CO₂ Greenhouse Gas Emissions: 1990-2030* (2013), <http://www.epa.gov/climatechange/EPAactivities/economics/nonco2projections.html>.

¹⁶⁰ The top twenty emitters will account for nearly 70 percent of global emissions. Author's calculation based on the data annexes provided by U.S. Environmental Protection Agency, *Global Anthropogenic Non-CO₂ Greenhouse Gas Emissions: 1990-2030* (2013), <http://www.epa.gov/climatechange/EPAactivities/economics/nonco2projections.html>.

¹⁶¹ The three additional participants are Canada (11th), Australia (13th), and France (17th).

activity in the environmental sectors, but to the cost of environmental compliance for industry [as well as] permit developing country governments to impose stricter regulations.”¹⁶² Without the force of a WTO plurilateral agreement to lower tariffs, environmentalists in developing countries will have to work through the domestic political process instead.

All this is not to say that the impact of a successful agreement will be insignificant. If the WTO plurilateral negotiations succeed, simply having the U.S., E.U., China, Japan, and other major economies collectively agree to take collective steps to lower tariffs for environmental goods should be regarded as a triumph in itself. However, the impact will be smaller than would otherwise be the case if other major emitters of carbon and non-CO₂ gases in the developing world (i.e., Brazil, India, Indonesia, Mexico, etc.) were also on the hook for binding commitments.

While the exclusion of certain developing countries from the plurilateral negotiations may not matter much when viewed from a trade perspective (given their small export share), it carries potentially more significant consequences when viewed from an environmental perspective. How serious are these consequences? As is discussed in the part that follows, the answer will turn on a series of policy choices to be taken in the future.

B. How Much Does Their Absence Harm Environmental Interests?

The extent to which the absence of key developing countries matters turns on two variables: First, how important are the set of environmental goods encompassed within the WTO plurilateral agreement for combatting climate change and other global environmental problems? Second, to what extent are governments in developing countries likely to take action on their own without binding treaty obligations or associated economic incentives? The answers to both questions remain unclear at present, making it difficult to ascertain the full extent to which the absence of key developing countries harms environmental interests.

Regarding the first question, environmental groups are divided in their views about the potential impact of trade agreements. Some argue that free trade agreements can help accelerate the rollout of green technologies.¹⁶³ Other environmental groups greeted the WTO’s announcement of a new plurilateral negotiating

¹⁶² Howse and van Bork, *supra* note 25, at 6.

¹⁶³ James Murray, *Could an Environmental Goods Agreement Unlock a Surge in Green Growth*, BUSINESSGREEN.COM (July 10, 2014), <http://www.businessgreen.com/bg/analysis/2354459/could-an-environmental-goods-agreement-unlock-a-surge-in-green-growth>.

initiative with lukewarm scepticism.¹⁶⁴ The Sierra Club, for example, has raised questions over whether tariff reductions for some of the 54 products on the current WTO negotiating list would actually do more harm than good for the environment.¹⁶⁵ Critics point out that the list includes dual-use products that could be used for the production of resources (*e.g.*, power from coal-fired plants, oil from tar sands) that should be phased out.¹⁶⁶

Because the list includes certain dual-use products, critics are correct that increased trade, in some instances, may not necessarily carry any direct environmental benefits. However, critics likely exaggerate the severity of the problem. First, there are potential work-around solutions to this problem. WTO members can try to minimize the dual-use phenomenon by creating a separate tariff line that applies to only environmentally-beneficial versions of a product and to liberalize trade for that tariff line (*i.e.*, “ex-outs” at the HS-8 or HS-10 digit level in WTO parlance).¹⁶⁷ Another potential approach for which Rob Howse and Petrus van Bork have long argued, is to use duty drawbacks.¹⁶⁸ Under this approach, the tariff is still collected at the border, but later refunded if an importer can certify that the good can be directed toward environmental use.

Furthermore, even if some dual-use issues remain, lower tariffs for environmental goods can still trigger positive environmental effects. At present, average world tariffs for environmental goods are nearly three times higher than those for other goods.¹⁶⁹ Steps to lower this difference should accelerate trade and trigger second-

¹⁶⁴ For example, Chris Flavin of the World Watch Institute described the potential impact of the talks as small, with the TPP and TTIP negotiations being far more important. See Bill Krist, *Eliminating Tariffs on Green Goods – A Potential Win-Win*, AMERICA’S TRADE POLICY (Mar. 6, 2014), http://americatradepolicy.com/eliminating-tariffs-on-green-goods-a-potential-win-win/#.U9_a1-OSyIK.

¹⁶⁵ Ilana Solomon, *Trade in Environmental Goods May Not Actually Be So Good*, HUFFINGTON POST, Jan. 27, 2014, http://www.huffingtonpost.com/ilana-solomon/trade-in-environmental-goods_b_4666328.html.

¹⁶⁶ *Id.*; Ilana Solomon, *Behind the Veil: The Truth About Trade in ‘Environmental Goods,’* HUFFINGTON POST, Apr. 22, 2014, http://www.huffingtonpost.com/ilana-solomon/behind-the-veil-the-truth_b_5186242.html.

¹⁶⁷ The inclusion of “ex-outs” has been a longstanding element found in proposals advocating the “list” approach. See 2010 CTESS *Chairman Stocktaking Exercise Report*, *supra* note 30, at Annex 3 (identifying potential ex outs proposed during the negotiations for various tariff lines). Note that some developing countries have noted that the “ex-out” approach is too complex for their national authorities to apply. Mahesh Sugathan, *Davos Announcement Shakes Up Trade Scene*, 8(1) BRIDGES TRADE BIORES REV. (Feb. 1, 2014).

¹⁶⁸ Howse and van Bork, *supra* note 25, at 24.

¹⁶⁹ UNEP, ITC, and ICTSD, *Trade and Environment Briefings: Trade in Environmental Goods*, 2 (June 2012),

order dynamic benefits through innovation, knowledge spillover effects, etc.¹⁷⁰ So long as the inclusion of the dual-use goods is environmentally neutral rather than negative, erring on the side of being over-inclusive is not harmful, at least from an environmentalist's standpoint. Certainly some of the products for which tariffs will be lowered, such as photovoltaic cells and components for turbines, will undoubtedly benefit efforts to lower the cost of renewable energy projects and spur their adoption.¹⁷¹

In addition, tariff reduction commitments by developing countries are likely to have a disproportionately larger positive impact than those made by developed countries. This is because the average tariff rate of the 54 environmental goods among the participating countries is already quite low.¹⁷² Only two (China and Korea) have average tariffs above four percent.¹⁷³ On the other hand, applied tariff rates for environmental goods in developing countries, are on average several times higher than they are for developed countries.¹⁷⁴ If the goal is to spur environmental goods adoption by cutting tariffs, the effect will be greater if more developing countries come onboard.¹⁷⁵

Therefore, to argue that the absence of developing countries does not matter because the WTO environmental goods initiative is simply a “wolf in sheep’s

http://www.unep.org/greeneconomy/Portals/88/documents/research_products/PolicyBriefs/environmental-goods.pdf.

¹⁷⁰ For a discussion of how to model dynamic gains from trade liberalization, see, for example, ANTOINE BOUËT, *THE EXPECTED BENEFITS OF TRADE LIBERALIZATION FOR WORLD INCOME AND DEVELOPMENT* (2008).

¹⁷¹ WORLD BANK, *INTERNATIONAL TRADE AND CLIMATE CHANGE: ECONOMIC, LEGAL, AND INSTITUTIONAL PERSPECTIVES* 52-3 (2008) (calculating gains using import elasticities); Int'l Institute for Sustainable Dev., *Greenhouse Gas Emission Impacts of Liberalizing Trade in Environmental Goods*, 15-20 (Oct. 2009) (by Peter Wooders) (suggesting the gains will be larger if tariff reductions are coupled with other measures such as a feed-in-tariff).

¹⁷² The average tariff (import weighted) among the 13 participants (excluding Taiwan) is 2.2%. Jaime de Melo, *The Launch of an Environmental Goods Agreement: A Timid Agenda*, BROOKINGS, <http://www.brookings.edu/blogs/planetpolicy/posts/2014/07/15-environmental-goods-agreement-de-melo>.

¹⁷³ *Id.*; de Melo & Vijil, *supra* note 91; Sugathan, *supra* note 111.

¹⁷⁴ Hamwey ICTSD Report, *supra* note 14, at 6-8 (suggesting that the difference is more than ten times greater when calculated on a trade-weighted basis); Sugathan, *supra* note 111 (suggesting that the difference is twice as large when calculated on a simple average basis for a comparator group of ten major non-participant developing countries).

¹⁷⁵ WORLD BANK, *supra* note 171, at 45-72; Jha, *supra* note 14, at 26 (“The most important justification for liberalising trade in EGs is an improvement in the environmental performance of developing countries.”).

clothing” is not altogether valid.¹⁷⁶ One cannot simply characterize the talks as backdoor trade liberalization by developed countries in the guise of environmentalism, if the outcome does carry with it some positive environmental gains – as is the case with inclusion of certain renewable energy products and components within the ambit of the negotiations. Negative costs do arise if certain developing countries, which are key emitters, choose not to lower their tariffs for emissions-reducing environmental goods because they are not a party to the WTO plurilateral agreement.

Instead of dwelling over dual-use products, critics instead should be focusing on determining how many other important environmental products and components exist at present that are not included on the list of 54 sub-headings and subsequently, lobbying for their inclusion. The decision over whether to expand the list of environmental goods beyond the existing list of 54 is one which will be made by negotiators at a later date. The more important additional environmental goods are included, the greater the cost will be, from a global environmental standpoint, arising from the absence of developing countries from the WTO initiative.

In addition, a related question is the scope of environmental services that will fall under the eventual agreement. Some commentators have emphasized the fact that there are strong complementarities between trade in environmental goods and trade in environmental services, particularly for developing countries.¹⁷⁷ Therefore, they argue that the level of positive environmental benefits arising from the WTO initiative will depend in part on the extent to which complementarities between environmental goods and services are recognized.¹⁷⁸ However, the WTO has simply acknowledged the possibility that the agreement could potentially expand in

¹⁷⁶ In response to the WTO plurilateral initiative, India’s chief negotiator at the WTO, Rajiv Kher, responded, “The move is but another disguised attempt to gain market access in developing countries.” Ankur Paliwal, *The Tax Trick*, DOWN TO EARTH (Feb. 28, 2014), <http://www.downtoearth.org.in/content/tax-trick>. See also Solomon, *supra* note 166.

¹⁷⁷ Jaime de Melo, *How Much Will the Davos Initiative Help Reduce Trade Barriers in ‘Green Goods,’* BROOKINGS OPINION (Mar. 4, 2014), <http://www.brookings.edu/research/opinions/2014/03/04-davos-trade-barriers-green-goods-de-melo>.

¹⁷⁸ See, e.g., Hu Tao et al., *Promoting Environmental Goods and Services (EGS) in Sino-Norway FTA for Demonstration in WTO: From China’s Perspective*, at 15-6 (Fridtjof Nansens Institut Report, Sept. 2011), http://www.fni.no/norway-china-fta/EGS_report_by_HT.pdf (suggesting that WTO should realize the importance of negotiating services for global economic improvement and discussing how this aligns with China’s environmental interest).

the second phase of negotiations to encompass services.¹⁷⁹ Whether the talks will actually do so or not remains unclear.

As the answers to these questions are unknown at present, it is difficult to judge the full impact of the absence of developing countries. Nevertheless, what is clear is that contrary to the views of the hard-line sceptics, there is some cost to be paid.

Developing countries' preferences for environmental goods remain low, with price and functionality acting as key purchasing criteria.¹⁸⁰ Not undertaking tariff cuts keeps prices high and prevents greater adoption of environmental technologies and products. In addition, lower tariffs can contribute to positive second-order effects, particularly in developing countries. Trade liberalization may lead to greater enforcement of existing environmental regulations and the creation of newer, stricter regulations.¹⁸¹ They may also serve as positive feedback loops for knowledge development and/or the creation of indigenous environmental solutions to local problems.¹⁸² Thus, the absence of key developing countries from a WTO environmental goods agreement is likely to carry some environmental cost – albeit one whose value remains difficult to ascertain at present.

This difficulty is further compounded by the fact that the answer to the second question also remains unclear: What is the likelihood that a developing country which is not party to an eventual plurilateral agreement on environmental goods will unilaterally lower the tariffs for such goods anyway? After all, signing on to the WTO agreement simply creates a treaty obligation to lower the tariffs for the list of environmental goods. But a party that does not sign on to the agreement could nevertheless also do so selectively for some, but not necessarily all, of the tariff lines included in the WTO environmental goods agreement.

Developing countries may choose to undertake such a strategy as a means of preserving full flexibility about the pace and scope of tariff liberalization for environmental goods. Without much to gain in the way of expanded market access for exports, they may ask why they necessarily need to commit by treaty to lower their tariffs to foreign environmental goods.

¹⁷⁹ *WTO Environmental Goods Launch Announcement*, *supra* note 69.

¹⁸⁰ Howse and van Bork, *supra* note 25, at vii.

¹⁸¹ For a case study of how this may be the case, see Int'l Centre for Trade and Sustainable Dev., *Defining Environmental Goods and Services and Their Trade and Sustainable Development Implications* (Oct. 2005) (by Enrique Lendo).

¹⁸² This is dependent on the developing countries possessing an existing base of scientific and technological capabilities. *See generally* Howse and van Bork, *supra* note 25, at 4-6 (discussing the BIO-EARN research initiatives in East Africa).

But this does not mean that they will not liberalize at all. It simply means that they will only do so when it makes sense under certain circumstances. For example, consider a scenario where there are no domestic producers of a given environmental good and the government wishes to encourage greater domestic consumption of the good because of its environmental benefits. It could engage in a variety of policy measures, including lowering tariffs for the good and/or providing a subsidy to encourage consumption. Were it to do so, then even though the government is not a party to the WTO environmental goods agreement, its unilateral policy measure(s) will trigger many of the same positive environmental gains as that which would have been achieved as a result of the treaty lock-in effects of signing on to the WTO plurilateral agreement. In contrast, were the government to take no unilateral actions whatsoever, then the environmental costs of non-participation would be much higher.

Therefore, the potential negative environmental impact of not having certain key developing countries join the new WTO initiative will also turn on the future actions of the excluded governments. If these governments engage in unilateral liberalization because they deem it to be in their interests under select circumstances, then the negative impact may be mitigated. But if the absence of a firm treaty obligation means that they instead take little to no policy initiative of their own, then the negative cost will be much greater. Again, their future course of action is difficult to predict, making it hard to gauge the full impact of self-exclusion.

But as this Part has emphasized, the cost of the WTO's shift to plurilateralism is not one which is limited to the WTO and the contours of global trade governance. Importantly, it extends to the environmental domain as well. If most developing countries continue to refuse to join on to a WTO environmental goods agreement, then the plurilateral agreement's impact on the global adoption of renewable and other environmentally-friendly technologies will be diminished. What remains unknown at present is simply the scale of this effect. But environmentalists should take note that the collapse of trade multilateralism carries with it some degree of environmental costs as well.

VII. CONSIDERING MECHANISMS TO BROADEN DEVELOPING COUNTRY PARTICIPATION

If one hopes to entice more developing countries into the WTO plurilateral initiative on environmental goods, what steps can the WTO and the existing participants take?

Deciding the stage when it is desirable to draw more developing countries into the talks is itself a tricky question. After all, as discussed in Part II, it was the standoff

between certain developing and developed countries that led to the original impasse in multilateral talks. If one draws additional developing countries into the talks too early, this action runs the risk of derailing the plurilateral negotiations as well. On the other hand, without greater participation from such countries, the positive environmental impact of the agreement will be limited. The question then is what can be done to attract certain key developing countries into the agreement, without undoing the existing positive momentum among those already committed to the plurilateral path forward.

In Part VII, I discuss four potential ideas. All will face political opposition from some portion of the existing participants in the talks. Therefore, I am not necessarily advocating that they be adopted at the onset of the talks. The most important task at the early stage is for a subset of WTO members to forge a consensus first. This, of course, is most easily done with a smaller group and a narrower scope. But if the WTO wishes to broaden the environmental impact of a plurilateral agreement, then it would do well to consider including mechanisms to attract additional developing members at a later stage.

A. Reflecting Potential Supply Chain Disaggregation in the Scope of Products Included on the Negotiated List

As noted, global production networks have played an important role in enticing developing countries to join other WTO plurilateral agreements in which they did not originally participate as a negotiating party. One reason that countries such as Malaysia and Thailand joined the ITA was because they hoped to maintain a competitive position vis-à-vis other developing countries in the race to attract outsourcing opportunities for electronic components.¹⁸³

While some developing countries continue to cling to the old mantra of seeking to produce an entire environmental good domestically, more prescient developing countries realize that production of many environmental goods will likely occur in the same manner as that of many other industrial goods – through a disaggregated supply chain that crosses borders.¹⁸⁴ Their objective is to integrate their producers

¹⁸³ As of 1990, Malaysia had the highest share of global exports for IT products among developing countries outside of the Asian tigers. See Catherine L. Mann & Xueping Liu, *The Information Technology Agreement: Sui Generis or Model Stepping Stone*, WORLD TRADE ORGANISATION (Sept. 4, 2007), at 4, http://www.wto.org/english/tratop_e/region_e/con_sep07_e/mann_liu_e.pdf.

Throughout 1990s, Thailand also sought to build up its electronics industry through attracting foreign investment and export-oriented growth. See UNCTAD, *A CASE STUDY OF THE ELECTRONICS INDUSTRY IN THAILAND* 3-11 (2005).

¹⁸⁴ See GLOBAL VALUE CHAINS IN A CHANGING WORLD (Deborah K. Elms & Patrick Low eds.) (2013).

into a global production chain for a given good. Those that do so successfully through a well-regulated, open trade policy are often better positioned to develop greater competencies which allow them to tap into the economic and social benefits of environmental goods.¹⁸⁵

For reasons discussed earlier, supply chain disaggregation is nowhere close to as extensive in environmental goods as it was for IT goods. Nevertheless, in considering the scope of the list of goods to be negotiated in the plurilateral agreement, the WTO should give due consideration to both the existing patterns and potential future patterns of supply chain disaggregation for particular environmental goods. Where such potential exists, it may wish to include the upstream component within the scope of the list of goods to be negotiated as part of the agreement.

For example, consider the production of solar panels. Originally, most of the production occurred within one country even as the supply chain became more disaggregated. However, recent years, have seen the emergence of a global production network. The disaggregated supply chain crosses borders. American-made silicon modules often include materials sourced from China, Japan, and the E.U., whereas Chinese-made photovoltaic cells rely upon upstream imports and equipment from Germany, Switzerland, and the U.S.¹⁸⁶

The potential for value capture exists along the entire chain. However, for a country to capture some of these benefits requires that it attracts the investment necessary to engage in specialization. Multinational corporations that make such decisions will consider, among many factors, the tariff rates at which the component products will enter that country. If these are high, they may be tempted to look elsewhere. Hence, including such components as part of the list of goods for which tariffs must be eliminated is positive, so far as the goal of a WTO plurilateral agreement is to facilitate the operation of cross-border production networks in environmental goods. The challenge, however, is to have sufficient foresight into how such disaggregation will occur and then reflect that in the agreement itself. If this can be done, then it can encourage the growth of global production networks, as was the case with the ITA.

Developing countries will note that they do not need to sign on to a WTO plurilateral agreement in order to lower tariffs to attract outsourcing investment. This is no doubt true; as noted in Part VI, they can do so unilaterally. However,

¹⁸⁵ *A Conversation on Green Goods Trade with Ronald Steenblik and Grant Ferrier*, 8(1) BRIDGES TRADE BIORES REV. (Feb. 1, 2014) [hereinafter *Steenblik and Ferrier Interview*].

¹⁸⁶ Doaa Abdel Motaal, *The Quest for Green Jobs*, YALE GLOBAL ONLINE, June 27, 2013, <http://yaleglobal.yale.edu/content/quest-green-jobs>.

signing on to a binding treaty provides a further signal of their commitment. Foreign investors need not worry that trade liberalization is simply temporary or might be revoked with a change in government. Instead, the lower tariffs are locked in by treaty.¹⁸⁷ While this factor may not prove decisive in determining the course of an investment, it may matter under certain circumstances.

Overall then, the greater the inclusion of component goods in the list of environmental goods, the more likely a future WTO plurilateral environmental goods agreement will attract some additional developing countries. Those most likely to join are the ones with already a strong base to attract production-oriented investment because of good infrastructure, a strong human capital base, etc. Potential examples include Malaysia or Mexico.¹⁸⁸ They may fear that by staying on the sidelines, they will be missing out on opportunities that will flow to China instead.¹⁸⁹ However, making the agreement attractive to them will require getting the scope of goods to be negotiated correctly first so as to reflect emerging supply chain dynamics.

At present, approximately one-third of the list of 54 environmental goods concern parts and components.¹⁹⁰ This is a promising start, but additional opportunities exist. In Table 4, I list examples of additional tariff sub-headings focused on component parts that have been proposed but which are not currently included in the WTO baseline list of 54 environmental goods. Altogether, over thirty additional potential HS-6 tariff sub-headings are reflected in Table 4.

¹⁸⁷ Treaties between developing and developed countries have often served as a means of locking in liberal economic reforms. See Bernard Hoekman & Simeon Djankov, *Catching Up with Eastern Europe? The European Union's Mediterranean Free Trade Initiative* (World Bank, Policy Research Working Paper No. 1562, 1996); CONGRESSIONAL RESEARCH SERVICE, NAFTA AT 20: OVERVIEW AND TRADE EFFECTS (Apr. 28, 2014) (by M. Angeles Villareal & Ian F. Fergusson). This has provided a positive signal to foreign investors, which has borne out positive results so far as foreign direct investment is concerned in Eastern Europe and Mexico.

¹⁸⁸ An example of a good listed on Table 4 for which this dynamic may apply is photovoltaic system controllers (HS-6 code 853710). For that product, in 2012, Mexican and Malaysian exports amounted to 7.1% and 5.0% of total global exports respectively. Author's calculations based on information provided by the UN Comtrade database. Note that Malaysia's share has increased significantly in the past two years. Malaysia has been the primary beneficiary of production shifts following trade remedies being imposed against Chinese exports; estimates suggest that it has surpassed the United States, Japan, and others to become the third largest producer of solar modules in the world. See Keith Bradsher, *A Solar Rise in Malaysia*, N.Y. Times, 12 Dec. 2014, at B1.

¹⁸⁹ Recall that China is one of the two developing countries that are already committed to join in the negotiations.

¹⁹⁰ Steinblek and Ferrier Interview, *supra* note 185.

Table 4. Select Examples of HS-6 Tariff Lines Encompassing Parts and Components for Environmental Goods Not Included in the APEC/WTO List of 54 Tariff Sub-Headings

HS Code	Description	Potential Ex-Out / Addt'l Product Spec.	Environmental Use
730300	Tubes, pipes and hollow profiles, of cast iron	Cast iron pipes, gutters & manhole for waste & potable water applications	Wastewater systems; delivery of safe drinking water
730431-90	Tubes, pipes and hollow profiles, of iron (except cast iron) or steel	Iron or steel pipes, gutters & manhole for waste & potable water applications	Wastewater systems; delivery of safe drinking water
730820	Tower and lattice masts	Wind turbine towers	Wind power systems
730900	Reservoirs, tanks, vats, and similar containers	Tanks/vats for anaerobic digesters for biomass; waste containers; septic tanks for wastewater	Wastewater treatment; waste management; renewable energy
731010 & 731029	Tanks, casks, drums, etc.	Waste containers	Wastewater treatment; waste management
731100	Containers for compressed/liquefied gas, of iron or steel		Renewable energy systems; carbon capture & storage
840510	Producer, water and acetylene gas generators	Include only those with purifiers	Purifiers to remove contaminants; clean coal technology
840681-82	Steam turbines and other vapour turbines	Steam turbines for geothermal heat pump systems; steam turbines for co-generation	Geothermal systems; electrical generation from environmental energy recovery systems
841011-13	Hydraulic turbines and water wheels		Hydropower systems
841090	Parts for hydraulic turbines and water wheels	Parts for 841011-13	Hydropower systems

841430	Compressors for refrigerating equipment	Compressors used in air handling equipment	Aeration systems for air pollution control
841440	Air compressors on a wheeled chassis for towing	Air compressors used in the transport/ extraction of polluted air, corrosive gases or dust	Aeration systems for air pollution control
841989	Other machinery for treatment of materials by change of temperature	Evaporators/dryers for water & wastewater treatment; condensers & cooling towers; biogas reactors	Wastewater treatment; separation and removal of pollutants through condensation; includes biomass broilers
841950	Solar collector & solar system controller; heat exchanger	Cooling towers	Solar energy systems
848180	Other appliances for pipes, boiler shells, tanks, vats or the like		Handling and transport of wastewater or slurries
848190	Parts of taps, cocks, valves, or similar appliances		Water delivery systems
848210	Ball bearings	Ball bearings for wind turbines	Wind turbines and other renewable energy equipment
848220	Tapered roller bearings	Tapered roller bearings for wind turbines	Wind turbines and other renewable energy equipment
848230	Spherical roller bearings	Spherical roller bearings for wind turbines	Wind turbines and other renewable energy equipment
848240	Needle roller bearings	Needle roller bearings for wind turbines	Wind turbines and other renewable energy equipment
848250	Other cylindrical roller bearings	Other cylindrical bearings for wind turbines	Wind turbines and other renewable energy equipment

848280	Other parts of ball or roller bearings	Other parts of ball or roller bearings for wind turbines	Wind turbines and other renewable energy equipment
848340	Gears and gearing, other than toothed wheels; gear boxes and other speed changers	Gearboxes for wind turbines	Wind turbines and other renewable energy equipment
848360	Clutches and shaft couplings	Clutches and shaft couplings for wind turbines	Assembly, repair, and maintenance of wind energy systems
850131-34	DC generators	Generators for renewable energy projects	Used in conjunction with equipment in renewable energy projects
850161-63	AC generators	Generators for renewable energy projects	Used in conjunction with boiler & turbines in renewable energy projects
850440	Static converters	Inverters used for renewable energy systems	Converts solar energy into electricity
850680	Other primary cells & primary batteries	Fuel cells	Fuel cells for renewable energy
850720	Lead-acid electric accumulators (not for vehicles)	Solar batteries	Solar PV systems
853710	Electrical control & distribution boards	PV system controllers	Solar PV systems
900190	Prisms, mirrors, and optical elements, n.e.s., unmounted	Solar concentrator systems	Solar power
900290	Modified lenses, prisms, mirrors, optical elements, n.e.s.	Solar concentrator systems	Solar power

Note: The HS-6 tariff sub-headings listed are meant to be examples only and not a comprehensive list. They are drawn from a consultation of a variety of sources, including proposals set forth by other WTO members (as summarized in TN/TE/19 and TN/TE/20) and analyses conducted by the ICTSD, OECD,

UNCTAD, UNEP, and the World Bank of negotiating lists. They also reflect some environmental goods involved in ongoing trade disputes.

Note that the overwhelming majority of environmental goods that I have chosen for inclusion in Table 4 are ones which were proposed in the past by the developed countries.¹⁹¹ Many of the current participants in the negotiations will therefore be amenable to their inclusion. A handful of suggestions are derived from other prior proposals as well.¹⁹² Several are dual-use products, but to allay concerns, WTO members could propose the use of ex-outs (reflected in the second column of Table 4) or duty drawbacks, as discussed earlier.¹⁹³

Although many of these environmental goods were suggested originally at the behest of developed countries, some developing countries nevertheless stand to benefit from their inclusion. In a number of instances, developing countries are already major exporters of such goods. For example, consider parts for hydraulic turbines (HS-6 code 841090). In 2012, Brazil and Argentina were the fifth and sixth largest exporters in the world of such parts.¹⁹⁴ Each exported more than \$55 million worth of goods under this tariff heading, giving each nearly a four percent share of global exports.¹⁹⁵ If the existing parties were open to including such parts into its list of environmental goods, both Brazil and Argentina might find it worthwhile to jump into the WTO plurilateral initiative to push for its inclusion. The need to do so is made more urgent by the fact that neither could expect to “free ride” off benefits achieved through APEC liberalization since the item does not fall on the APEC list.¹⁹⁶ Furthermore, the ITA experience suggests that it is

¹⁹¹ See Friends of Environmental Goods Proposal, JOB(09)/132, *supra* note 31.

¹⁹² The following tariff sub-headings were the ones included in other proposals: 841950 (Philippines); 731100, 841012, 841013, 848210, 848220, 848230, 848240, 848250, 848280 (Saudi Arabia). See Special Session of the Committee on Trade and Environment, *Continued Work Under Paragraph 31(iii) of the Doha Ministerial Declaration: Submission by the Kingdom of Saudi Arabia*, JOB(09)/169 (Nov. 6, 2009); Special Session of the Committee on Trade and Environment, *Continued Work Under Paragraph 31(iii) of the Doha Ministerial Declaration: Submission by the Philippines*, JOB/TE/2 (Feb. 16, 2010).

¹⁹³ See *infra* notes 167-168.

¹⁹⁴ The top four were the E.U., China, Switzerland, and the U.S.

¹⁹⁵ Author's calculation based on information provided by the UN Comtrade database.

¹⁹⁶ Granted, the parties could still hope to “free ride” off the negotiating efforts by the other four major exporters already party to the WTO negotiations because of the requirement that any concessions be extended on a MFN basis. See Part III.C *supra*. However, note the following difference: For the list of 54 environmental goods on the APEC list, the parties to the negotiations have already agreed to lower tariffs for such goods; what remains to be negotiated is the timing and pace of liberalization required. Thus, a non-participant is certain of gains and may choose to “free ride” off other parties' negotiating efforts. However, for goods that fall outside this list, it remains unclear whether any liberalization will be required at all. This depends on whether any participating party

important that countries do so at the initial stage of negotiations. Once the scope of the list is set in the initial agreement, it becomes difficult for later entrants to seek to expand its coverage subsequently.¹⁹⁷

Expanding the list of environmental goods beyond the original 54 tariff sub-headings will prove to be a difficult and contentious process. Politics and negotiating strategies will certainly enter into the calculation. The point here is simply to note that if the countries negotiating the agreement and/or the WTO hope to entice additional developing countries onboard, they would do well to consider including more component parts as part of the list. Supply chain dynamics, particularly related to goods not subject to liberalization via APEC, may well factor in the decision calculus of certain developing countries.

B. *Special and Differential Treatment Based on Environmental Criteria*

Another mechanism frequently used in WTO agreements to accommodate developing countries is to accord them special and differential treatment. This takes on several forms. For example, the TRIPS Agreement provided a longer implementation period for developing countries, including a waiver for least-developed countries on certain provisions.¹⁹⁸ Another example is the Agreement on Agriculture which allows developing countries to take on less burdensome tariff and subsidies reductions, and provides even more room for least-developed countries.¹⁹⁹

The same mechanism(s) could, of course, also be adopted within the WTO environmental goods agreement.²⁰⁰ Longer allowances could be made for developing and least-developed countries in terms of when tariffs must be reduced or eliminated as required by the agreement. Additionally, or as an alternative, developing and least-developed countries could be given special allowances in

will push for its inclusion and tariff elimination. Brazil or Argentina may hope for one of the other four exporting parties to do so. But there is the chance that the others may choose not to do so and focus on other higher priorities. Thus, the certainty of achieving gains through “free riding” because of the MFN requirement is lower than in the situation discussed earlier in Part III.C.

¹⁹⁷ Ted Murphy & Holly Files, *Reducing the Landed Cost of ‘Environmental Goods,’* INTERNATIONAL TRADE COMPLIANCE UPDATE (Apr. 16, 2014, 09:23 AM), <http://www.internationaltradecomplianceupdate.com/blog.aspx?entry=1894>.

¹⁹⁸ Agreement on Trade-Related Aspects of Intellectual Property Rights, arts. 65 & 66, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 401.

¹⁹⁹ Agreement on Agriculture, arts. 15 & 16, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 410.

²⁰⁰ See *supra* note 48; see also Stillwell, *supra* note 35, at 21-3.

terms of the level of tariff reduction for a given percentage of tariff lines. For example, a developing country might be able to exempt a certain number of tariff lines on the list or be required to reduce a given tariff down to five percent rather than fully eliminate it.

With greater flexibility and potential opt-outs, those countries currently outside of the plurilateral negotiations may find that they will have the policy space necessary to join. Since the negotiations as they currently stand are envisioned to achieve full tariff liberalization without exception, any given domestic interest group hurt by this move will mobilize resources to oppose the agreement. The political economy dynamics would change if countries were given certain exceptions to continue to protect certain industries to a limited degree and/or for a limited time.

Normally, determinations of developing country status for purposes of WTO are made on the basis of self-declaration.²⁰¹ Developed countries, however, in the past have opposed the granting of special and differential treatment to large emerging economies, arguing that they are major powers and ought to share in the collective responsibility.²⁰² This has led to tensions in multilateral trade negotiations, including their collapse on certain occasions.²⁰³

To avoid this type of scenario, one possibility would be to grant special and differential treatment based on a criteria other than developing country status. In an environmental context, one possibility would be to link exemptions to a WTO member's per capita emissions of harmful CO₂ and non-CO₂ gases.²⁰⁴ Those countries with lower per capita emissions would be granted leeway to designate certain negotiated tariff lines as protected products – *i.e.*, not have to eliminate tariffs completely for such designated products. In other words, special and differential treatment would be tied to a country's pro-environmental behaviour.

²⁰¹ See David Bosco, *Who's a "Developing Country"? You'd be Surprised*, FOREIGN POLICY, Feb. 18, 2011, http://bosco.foreignpolicy.com/posts/2011/02/16/whos_a_developing_country_you_d_be_surprised.

²⁰² Jean-Marie Paugam & Anne-Sophie Novel, *Why and How Differentiate Developing Countries in the WTO? Theoretical Options and Negotiating Solutions*, IFRI, 2-3, (Sept. 2005), http://www.ifri.org/files/Economie/Novel_Paugam_Nov_2005.pdf (noting the objections of the U.S. and E.U., and the refusal of countries such as Mexico, South Korea, and India to consider developed countries' proposals for greater differentiation).

²⁰³ See, e.g., *id.* at 2; Paul Blustein, *The Nine-Day Misadventures of the Most Favored Nations: How the WTO's Doha Round Negotiations Went Awry in July 2008*, BROOKINGS Global Economy and Development, (Dec. 5, 2008), <http://www.brookings.edu/research/articles/2008/12/05-trade-blustein>.

²⁰⁴ This will require that the participants also agree to the basis on which such emissions are calculated.

At present, choosing a criterion such as per capita emissions would benefit developing countries disproportionately. But to preserve this special and differential treatment status, a developing country would need to adopt environmentally-friendly sustainable growth. This serves overall global welfare interests. Moreover, the special and differential treatment status would be open to all. If a developed country sought to protect a certain industry, provided that it managed to lower its per capita emissions sufficiently, it too could do so. Thus, adoption of said criteria as the basis for special and differential treatment has the potential of rewarding all parties, and not just developing countries.

Moreover, the use of a per capita emissions criterion for special and differential treatment allows the WTO to get around the tricky issue of China's treatment in the agreement. Given the numerous WTO-plus criteria that it has had to adopt as part of its WTO accession, the Chinese have been insistent that they be treated similarly to other developing countries when it comes to any preferences.²⁰⁵ This has led to protests from developed countries which view access to the Chinese market as critical, leading in turn to the collapse of past multilateral negotiations.²⁰⁶ However, the per capita emissions metric provides an objective means in which special and differential treatment extends to many other developing countries not yet party to the WTO plurilateral agreement, but not China. One often-overlooked, but environmentally-significant, development of recent years is the fact that China's per capita carbon emissions are already as high as the European Union's.²⁰⁷ Thus, China as well as other oil-producing developing countries (*e.g.*, Russia, Saudi Arabia) would not qualify for special and differential treatment using this criterion, unless it undertook significant efforts to reduce its emissions.

Adoption of a metric for special and differential treatment that is tied to an environmental condition allows for multiple objectives to be met. First, by benefiting a number of emerging economies (*e.g.*, Brazil, India, Indonesia, Mexico, Nigeria, etc.), it may represent a way to create sufficient policy flexibility to entice key countries whose actions impact global climate change initiative to join the negotiations. Second, it assuages several concerns that developed countries may have over special and differential treatment. China, with its present emissions

²⁰⁵ This longstanding point was recently reiterated by President Xi Jinping who emphasized that the vitality of the WTO depends on its inclusiveness and non-discrimination in its treatment of members, including China. *See Xi Urges G20 Members to Fight Against Protectionism*, XINHUA, Sept. 7, 2013.

²⁰⁶ *See supra* note 203.

²⁰⁷ Duncan Clark, *Average Chinese Person's Carbon Footprint Now Equals European's*, THE GUARDIAN, July 18, 2012; Robert Wilson, *China's Per Capita CO2 Emissions Are Now Greater Than Europe's*, THE ENERGY COLLECTIVE (Jan. 22, 2014), <http://theenergycollective.com/robertwilson190/329626/new-reality-chinese-capita-carbon-emissions-are-now-same-europes>.

levels, would not receive preferential treatment, unless those same preferences are also given to the EU. Moreover, developed countries, were they to take steps to limit their own emissions footprint, could also qualify. The preferences, unlike those accorded under other special and differential treatment schemes, are not a handout for poorer countries. Instead, they serve as a reward for sustainable growth. Finally, and perhaps most importantly, this metric serves as an incentive to maintain low emissions levels as countries grow. Otherwise, countries will have to pay a cost of forfeiting their exemptions.

C. Regulating Standards for Environmental Goods

A third possibility is to expand the scope of provisions in the WTO plurilateral negotiations beyond the issue of tariffs. The European Union has called for participants to embrace a broader negotiating agenda that would include addressing non-tariff barriers to environmental goods.²⁰⁸ This is in keeping with the original broad Doha mandate for the multilateral negotiations.

Developed countries have yet to reach consensus over whether the scope of the new WTO plurilateral negotiations should remain broad, per the original multilateral mandate, or be narrowed to focus primarily on tariffs, as is the case with the APEC initiative. On the issue of non-tariff barriers specifically, the United States, as of this writing, has yet to clarify its stance.²⁰⁹ When launching the negotiations in July 2014, the participants agreed that the first phase of negotiations would focus exclusively on tariffs.²¹⁰ However, they left the possibility of proceeding with a second phase that would also focus on non-tariff barriers open.²¹¹

Provided that the talks do eventually proceed to this second phase, then this may also serve as an additional incentive to entice developing countries on board. A broader negotiating mandate increases the potential scope of issues that the agreement will affect. While many developing countries may not care enough to participate directly in negotiating lower tariffs because of the reasons noted in Part III, the same rationale may not apply with respect to other non-tariff barriers. The

²⁰⁸ Council of the European Union, Council Conclusions on the Environmental Goods Initiative of 8 June 2014, Foreign Affairs (Trade) Council Meeting, ¶ 3.

²⁰⁹ *EU Member States Call for Green Goods Talks to Address Services, NTBs*, INSIDE U.S. TRADE, May 16, 2014. Note that this is in contrast to the U.S. position with respect to the European Union's call for the negotiations to also include discussion of environmental services, which the U.S. has expressed opposition to because it seeks for the issue to be addressed in the negotiations over the Trade in Services Agreement.

²¹⁰ WTO Environmental Goods Launch Announcement, *supra* note 69.

²¹¹ *Id.*

calculus for certain developing countries may shift if additional issues beyond tariffs come into play.²¹²

One possible non-tariff barrier that could be addressed in the negotiations is the issue of standards for environmental goods. An international standard is defined according to the WTO's TBT Agreement as a "[d]ocument approved by a *recognized body*, that provides, for common repeated use, rules, guidelines or characteristics for products or related processes or production methods with which compliance is not mandatory."²¹³ It also includes "terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method."²¹⁴

Under WTO law, the issue of what constitutes a global standard is of major importance for developed and developing countries alike. If "relevant international standards exist or their completion is imminent," a WTO member is required to "use them, or the relevant parts of them, as a basis for their technical regulations except when such international standards or relevant parts would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued."²¹⁵ In the event that a WTO member chooses to deviate from the established international standard, then it must fulfil a number of additional conditions set forth in the TBT Agreement in order to remain compliant with WTO law.²¹⁶

Not surprisingly then, the mechanics of international standard setting have become increasingly political. As noted above, for a document to be considered a "relevant international standard" under WTO law requires its approval by a "recognized body." Private standard-setting institutions such as the Institute of Electrical and Electronics Engineers Standards Association qualify, as do UN organizations such as the Food and Agriculture Organization.²¹⁷ Recognition can be of critical importance, as producers with competing standards fight for global market share.

²¹² *Accord de Melo & Vijil*, *supra* note 91 (noting larger gains from the inclusion of non-tariff barriers and environmental services in the negotiations, particularly for developing countries).

²¹³ Agreement on Technical Barriers in Trade, ¶ 2, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organisation, Annex 1, 1868 U.N.T.S. 120.

²¹⁴ *Id.*

²¹⁵ *Id.* art. 2.4. Examples for when adoption of an international standard may be inappropriate include, "for instance because of fundamental climatic or geographic factors or fundamental technological problems."

²¹⁶ *Id.* arts. 2.9-2.10.

²¹⁷ Note that for issues concerning sanitary and phytosanitary standards, Annex A of the SPS Agreement names specific standard-setting organizations for particular categories. The TBT Agreement references the International Organization for Standards and the

However, to date, no dominant international organization exists for setting standards for environmental products. Because standards are often set the national/local level, this raises the possibility that they can serve as a non-tariff barrier.

One approach that negotiators could take would be to establish a new international standard-setting organization specific for the environmental goods included as a part of the plurilateral agreement. Membership in this body would be open only to those WTO members that sign on to the agreement. This group would then either acknowledge or define the applicable global standards.²¹⁸ In other words, the WTO would recognize an explicit bargain whereby it grants those countries which agree to liberalize trade for environmental goods the power to define the global standard for such goods.

With such a bargain in place, some developing countries may find it more enticing to sign onto the plurilateral agreement. As noted in Part III, if the negotiating scope is limited to tariffs only, many developing countries may find it unnecessary to join the WTO initiative, because they believe that the gains achieved through APEC will be sufficient and/or because they can free ride off the negotiating efforts of others. However, the same dynamic does not apply once the scope expands to standards. The APEC initiative is limited to tariffs only and does not encompass standards. Countries may be much less willing to defer to others, particularly their competitors, when it comes to setting standards. Consequently, expanding the agreement's scope to include standards may serve to entice more developing countries onboard.

To understand why the case is such, let us consider an example: the issue of standard-setting for batteries used to store energy produced from renewable sources (*e.g.*, electronics, automobiles, etc.). Already, for non-environmental conventional goods involving electricity and energy sources, conformity assessment procedures play an important role in the regulation of cross-border trade of such components. The same will undoubtedly be true for components of

International Electrotechnical Commission, but leaves open the possibility for other organizations as well.

²¹⁸ For a discussion of how this group would approach the concrete task of establishing standards through acknowledging those set by other organizations or developing ones of their own where no such standards exist, see Int'l Institute for Sustainable Dev., *Environmental Goods and Services Negotiations at the WTO: Lessons from Multilateral Environmental Agreements and Ecolabels for Breaking the Impasse*, 55-60 (2010) (by Aaron Cosbey et al.) (providing six recommendations based on an examination of prior international experiences, whereby the approach differs depending on the type of environmental good).

renewable energy products.²¹⁹ And while a particular developing country may not expect to compete with the U.S., E.U., or Japan with respect to production of sophisticated end-product such as a hybrid car, it could reasonably hope to capture part of the production chain with respect to a component part. Developing countries may not wish to simply have these standards and procedures for such components imposed on them. Moreover, how such standards are set may affect their competitive positioning vis-à-vis other developing countries that also seek a place on the global production chain. Developing countries that already manufacture such goods or expect to do so in the future may not want to be shut out of the standard-setting process.

The importance of standards extends even to the LDCs. A UNDP report explicitly recommended that “LDCs should participate actively in standard setting bodies in order to ensure that standards are not discriminatory against EPPs produced in LDCs” despite acknowledging the relatively low share of LDC trade in environmental goods.²²⁰ For all countries, then, the best way to ensure that standards do not become a non-tariff barrier to one’s exports is to play a role in setting them from the onset.

Therefore, if the prospect of lower tariffs alone for environmental goods is insufficient to lure developing countries, then the WTO ought to consider expanding the scope of what the agreement will deliver. The possibility of a potential second phase of negotiations examining issues of non-tariff barriers holds promise. Whether the existing players are willing to embrace an issue such as standards remains to be seen.

D. Addressing Trade Remedies for Environmental Goods

Another potential non-tariff barrier that might be of interest to developing countries is the issue of trade remedies on environmental goods. Since the Great Recession, several countries, both developed and developing, have imposed anti-dumping and countervailing duties against imports of each other’s environmental goods.²²¹ Since 2012, the trend has accelerated, leading to concerns that trade

²¹⁹ Standards for battery storage of renewable energy are already on the international agenda and the focus of standards-setting organizations such as Underwriter Laboratories. See Mahmood Tabaddor, *New Internal Short Circuit Test Development for Battery Safety Standards* (2011), <http://www.cse.anl.gov/us-china-workshop-2011/pdfs/batteries/2011%20US%20China%20EV%20Workshop%20on%20ISC%20at%20UL.PDF>.

²²⁰ Khatun, *supra* note 108, at 7 & 42-3.

²²¹ See UNCTAD, *Report for the Green Economy and Trade Ad Hoc Expert Group 2, Trade Remedies Targeting the Renewable Energy Sector*, 12-3, (Apr. 2014) (by Cathleen Cimino & Gary Hufbauer).

remedies may serve to undermine efforts to boost trade in environmental goods and reap the pro-environmental effects.²²²

From 2008 to 2012, WTO members have made over forty final determinations in trade remedy cases on environmental goods. WTO members have been taken action against several of the goods that fall within the scope of the APEC list of 54 products that form the starting point of the WTO plurilateral negotiations.²²³ Interestingly, in several instances, countries that are all committed to the WTO plurilateral initiative have taken action against each other's imports.

The highest profile of these disputes concern solar panels. In November 2012, the United States imposed duties in the range of 24-36% on solar panels from China.²²⁴ China subsequently retaliated by imposing anti-dumping duties of up to 57% and countervailing duties in the range of 2.1% on solar grade polysilicon from the United States.²²⁵ Korean exports of polysilicon to China were also caught in the cross fire and subject to trade remedies as part of the same investigation.²²⁶ The tit-for-tat trade wars between the U.S. and China have continued, with a follow-up case under way in the United States against Chinese and Taiwanese solar cells and modules. In a preliminary ruling in June 2014, the U.S. Department of Commerce imposed new countervailing duties in the range of 18.5-35.2% on Chinese solar panels and related products.²²⁷ A month later, the U.S. Department of Commerce issued another preliminary ruling, imposing additional anti-dumping duties on Chinese solar panels and related products.²²⁸ These cases remain ongoing as of this writing.²²⁹

²²² *Id.* at 10 (estimating that a “sizeable global environmental goods trade – said to be worth \$955 million annually – . . . could be impacted by penalty duties imposed on renewable energy products.”).

²²³ See Table 5 *infra*.

²²⁴ See Diane Cardwell and Keith Bradsher, *U.S. Will Place Tariffs on Chinese Solar Panels*, N.Y. TIMES, Oct. 11, 2012, at B3; see also *Crystalline Silicon Photovoltaic Cells and Modules from China*, U.S. INTERNATIONAL TRADE COMMISSION (Nov. 2012), http://www.usitc.gov/secretary/fed_reg_notices/701_731/701_481_notice11302012_1.pdf.

²²⁵ Michael Martina, *China Sets Final Duties on U.S. Solar Materials*, REUTERS, Jan. 20, 2014.

²²⁶ *Id.*

²²⁷ Krista Hughes, Charlie Zhu, & David Stanway, *U.S. Sets New Import Duties on Chinese Solar Products*, REUTERS, June 4, 2014.

²²⁸ Diane Cardwell & Keith Bradsher, *Solar Industry is Rebalanced by U.S. Pressure on China*, N.Y. TIMES, July 26, 2014, at B1.

²²⁹ For an extensive discussion of the background issues and the preliminary ruling, see *Crystalline Silicon Photovoltaic Products from China and Taiwan*, Investigation Nos. 701-TA-5111 and 731-TA-1246-1247 (Preliminary), Publication 4454 (Feb. 2014) http://www.usitc.gov/publications/701_731/pub4360.pdf.

A similar threat of a solar trade war between the E.U. and China also raged in 2012-13. High-level negotiations managed to avert a trade war. In July 2013, the EU and China concluded a settlement in which Chinese solar panel manufacturers agreed to abide by an import quota and minimum sales price.²³⁰ However, in June 2014, European solar panel manufacturer alleged that Chinese manufacturers were violating the terms of the negotiated settlement, threatening to once again re-open the dispute.²³¹

These disputes are not just limited to solar panels. Another affected product, which is also included on the list of 54 products, is wind-powered electric generating sets.²³² In April 2014, Australia issued a final determination that resulted in the levying of anti-dumping duties of 15.0-15.6% against Chinese wind towers and 17.2-18.8% percent against Korean wind towers.²³³ The United States had also issued anti-dumping duties in the range of 45.0-70.6% against Chinese wind towers more than a year earlier.²³⁴

A study by the Peterson Institute for International Economics concluded that trade remedies on environmental goods reduced trade in such goods by approximately \$14 billion annually, or \$68 billion over five years.²³⁵ Therefore, trade remedies have the potential to undermine the positive environmental effects from a WTO plurilateral agreement, especially since they have been used by several of the fourteen negotiating parties against each other's exports. Hence, they are already of relevance to existing participants.

²³⁰ The settlement agreement sets a quota of seven gigawatts per year of solar products, with a minimum price of €0.56 per watt. It is "expected to last until the end of 2015." Joshua Chaffin, *EU and China Settle Trade Fight over Solar Panels*, FIN. TIMES, July 27, 2013.

²³¹ Li Jiabao, *Chinese Solar Panel Makers Deny Violating Settlement with the EU*, CHINA DAILY USA, June 13, 2014.

²³² This falls under the HS-6 code 850231. Note that the Australian anti-dumping case discussed below was conducted at the HS-10 code level; it included the more granular tariff lines of two other HS-6 codes (730820 and 730890, which refer to a basic tower and steel tower sections respectively) that can also be used for wind towers but which is not on the list of 54 products.

²³³ AUSTRALIAN GOVERNMENT ANTI-DUMPING COMMISSION, WIND TOWERS EXPORTED FROM THE PEOPLE'S REPUBLIC OF CHINA AND REPUBLIC OF KOREA, Gazette – C2014G00627 (Apr. 16, 2014).

²³⁴ Brian Wingfield, *U.S. Boosts Import Duties on Chinese Wind-Energy Firms*, BLOOMBERG, Dec. 19, 2012

²³⁵ Cimino & Hufbauer, *supra* note 221, at 12-3. Note that this estimate is based on an assumption of an elasticity of import demand of -1.0. Changes in this assumption will affect the size of the estimated impact.

Nevertheless, despite the fact that their exports are affected, it is not altogether clear that some of the powerful developed countries will want to include disciplines on trade remedies as part of the scope of a WTO environmental goods agreement. Numerous parties face conflicting goals. On the one hand, they will want to ensure the gains of lower tariffs negotiated through the agreement for their exporters cannot be undone simply through trade remedies. However, on the other hand, they will seek to retain full flexibility to take action against unfair trade behaviour of their trading partners.

Several individuals have called on WTO members to consider additional ways to discipline the use of trade remedies for environmental goods so as to ensure that protectionist interests do not prevail over environmental interests.²³⁶ In April 2014, UNCTAD organized a special *ad hoc* expert group meeting on the topic.²³⁷ The International Centre for Trade and Sustainable Development's E15 Expert Group on Clean Energy has also explored various multilateral options for limiting the use of trade remedies on environmental goods.²³⁸

Among the various proposals being floated are the following: required use of a lesser-duty rule for anti-dumping and countervailing duty determinations²³⁹; limitations on the duration of trade remedies for environmental goods²⁴⁰; limitations on the scope of trade remedies imposed simultaneously on environmental goods²⁴¹; mandatory use of a public interest test²⁴²; creation of a

²³⁶ See *id.*; Int'l Centre for Trade and Sustainable Development, *Trade Remedies on Clean Energy: A New Trend in Need of Multilateral Initiatives*, Think Piece for the E15 Expert Group on Clean Energy (Sept. 2013) (by Jonas Kasteng); Simon Lester & K. William Watson, *Free Trade in Environmental Goods: The Trade Remedy Problem*, CATO INSTITUTE Free Trade Bulletin No. 54, 19 (Aug. 2013), <http://www.cato.org/publications/free-trade-bulletin/free-trade-environmental-goods-trade-remedy-problem>; Mark Wu & James Salzman, *The Next Generation of Trade and Environment Conflicts: The Rise of Green Industrial Policy*, 108 NORTHWESTERN UNIV. L. REV. 401 (2014).

²³⁷ For more details, see UNCTAD, *Report for the Green Economy and Trade Ad Hoc Expert Group 2, Trade Remedies Targeting the Renewable Energy Sector*, 12-3, (Apr. 2014) (by Cathleen Cimino & Gary Hufbauer). United Nations Conference on Trade and Development, *Green Economy and Trade. Ad Hoc Expert Group 2: Trade Remedies in Green Sectors: the Case of Renewables*, 3-4, (Apr. 2014), <http://unctad.org/en/pages/MeetingDetails.aspx?meetingid=531>.

²³⁸ For more details, see *Clean Energy Technologies and the Trade System Reports*, ICTSD E15 INITIATIVE, <http://e15initiative.org/clean-energy/>.

²³⁹ Cimino & Hufbauer, *supra* note 221, at 22; Kasteng, *supra* note 236, at 10-11.

²⁴⁰ Cimino & Hufbauer, *supra* note 221, at 22; Kasteng, *supra* note 236, at 11; Wu & Salzman, *supra* note 236, at 470.

²⁴¹ Cimino & Hufbauer, *supra* note 221, at 22; Kasteng, *supra* note 236, at 11; Wu & Salzman, *supra* note 236, at 470-71.

temporary peace clause²⁴³; and redistribution of duties to consumers for environmental purchases.²⁴⁴ So far, WTO members have remained relatively mum, at least formally, about these proposals.²⁴⁵

Why would the incorporation of trade remedies as part of the negotiating agenda affect the interest of non-participating developing countries in the talk? After all, most of the examples given so far are of disputes between participants already committed to the negotiations. These may be the highest profile cases, but it does not represent the entire set. Producers from several developing countries have also been hit with trade remedies against their products.

Table 5 presents a list of trade remedies taken against environmental goods from developing countries between 2012 and mid-2014. As discussed above, a large number of these cases have been taken by the U.S. and E.U. against products from China. This is not surprising given the vast proportion of environmental goods exported from developing countries are from China (see Figure 1 earlier).

Table 5. Trade Remedy Measures Imposed Against Environmental Goods from Developing Countries, 2012 to mid-2014

Complainant (Importing) Country	Developing Country Investigated	Product(s)	Type	Date of Ruling	Measure Imposed
Final Rulings					
U.S.	China	Crystalline silicon PV cells & modules	AD	7 Dec. 2012	18.32-29.14% (specific); 249.96% (PRC-wide)
U.S.	China	Crystalline silicon PV cells & modules	CVD	7 Dec. 2012	14.78-15.97% (specific); 15.24% (all others)

²⁴² Cimino & Hufbauer, *supra* note 221, at 22; Kasteng, *supra* note 236 at 10; Lester & Watson, *supra* note 236; *contra* Wu & Salzman, *supra* note 236, at 469-70 (discussing why the idea is “politically unrealistic”).

²⁴³ Cimino & Hufbauer, *supra* note 221, at 22; Kasteng, *supra* note 236, at 11-12.

²⁴⁴ Wu & Salzman, *supra* note 236, at 469-70.

²⁴⁵ Some WTO members are already required to apply some of the proposals already under the existing law and would therefore presumably favor their required adoption by other WTO members. However, others have informally expressed that they would not favour having the Environmental Goods Agreement go as far as to impose an absolute moratorium on trade remedies.

U.S.	China	Utility scale wind towers	AD	15 Feb. 2013	44.99-47.59% (specific); 70.63% (PRC-wide)
U.S.	China	Utility scale wind towers	CVD	15 Feb. 2013	21.86-34.81% (specific); 28.34% (all others)
U.S.	Vietnam	Utility scale wind towers	AD	15 Feb. 2013	51.54% (specific); 58.54% (Vietnam-wide)
E.U.	Argentina	Biodiesel	AD	26 Nov. 2013	€216.64-245.67/tonne (specific); €245.67/tonne (all others)
E.U.	Indonesia	Biodiesel	AD	26 Nov. 2013	€76.94-174.91/tonne (specific); €178.85/tonne (all others)
E.U.	China	Solar panels (Crystalline Silicon PV Modules & Key Components)	AD (price undertaking)	5 Dec. 2013	€0.56/watt; or 27.3-64.9% (specific); 53.4% (all others)
E.U.	China	Crystalline Silicon PV Modules & Components	CVD (price undertaking)	5 Dec. 2013	€0.56/watt; or 0-11.5% (specific); 11.5% (all others)
Australia	China	Wind towers	AD	16 April 2014	15.0% (specific); 15.6% (all others)

E.U.	China	Solar glass	AD	13 May 2014	0.4-36.1% (specific); 25.0% (all others)
Provisional Measures & Preliminary Determinations Only (as of July 2014)					
India	China	Solar cells	AD	22 May 2014	Rs0.64- 0.81/watt
India	Malaysia	Solar cells	AD	22 May 2014	Rs.0.62/watt
U.S.	China	Crystalline silicon PV cells & modules (expanded)	CVD	3 June 2014	18.56-35.21% (specific); 35.21% (all others)
U.S.	China	Crystalline silicon PV cells & modules (expanded)	AD	25 July 2014	26.33-58.87% (specific); 165.04% (PRC-wide)

Source: Semi-annual notifications by WTO members on anti-dumping and countervailing duties (for measures taken through 31 Dec. 2013); Investigating authorities' reports (where available) and press reports (for measures taken Jan.-July 2014)

However, Table 5 also makes clear that trade remedies are not purely a Chinese issue of concern. In the last two years (2013-14), anti-dumping duties have also been imposed against environmental goods from four other developing countries that are not yet a party to the WTO plurilateral initiative: Argentina, Indonesia, Malaysia, and Vietnam. They have encompassed a range of products including solar panels, wind turbines, and biodiesel.

If the WTO plurilateral talks were to encompass negotiations over the creation of additional rules limiting the use of trade remedies on environmental goods, producers from a number of these developing countries presumably would put pressure on their governments to get involved in the talks. After all, any additional limitations might serve to benefit their interests. However, unlike the situation with tariffs, non-participating countries cannot always count on the possibility of free riding on the negotiating positions of participants to advance their interests.

For example, imagine a scenario in which the negotiating parties agreed to consider a proposal to limit the time for which a trade remedy could be applied against environmental goods. Note that this is not a radical suggestion, as time limitations already apply today with WTO safeguards. As was true in the context of tariffs negotiations, a natural question for the negotiations would be the scope of environmental products for which this time limitation would apply. While one possibility would be to link this list with that applicable for tariff reductions, this does not necessarily have to be the case.

In this scenario, developing countries such as Argentina and Indonesia presumably would want biofuels to be included as part of the list of environmental goods for which limitations on trade remedies would apply. Already, the European Union has taken action against their exports (see Table 5). Argentina and Indonesia would hope to limit the negative impact of these existing measures and to head off other WTO members from taking similar action. However, achieving this goal will likely require that at least one country, if not both, partake directly in the negotiations. Because the E.U. has not taken measures against other countries, Argentina and Indonesia cannot count on an existing participant in the talks to push for the inclusion of biofuels. With the possibility of free riding foreclosed, powerful biofuel interests in both countries will presumably push their governments to join the WTO negotiations. Otherwise, these interest groups might face an outcome whereby the WTO agrees to limitations on trade remedies, but only for a list of environmental products such as solar panels and wind turbines and not biofuels.

Broadening the scope of negotiations may serve to change the calculus of participation versus non-participation for certain developing countries. With additional new issues in play, some may face greater pressures from certain producer interests to seek a seat at the negotiating table. But again, whether existing participants are willing to take on a tricky and sensitive issue such as trade remedies as part of the negotiations will remain to be seen.

Overall, Part VII suggests that the means by which to draw more developing countries into the WTO plurilateral initiative is to broaden the negotiation's scope. A focus on tariffs is unlikely to provide sufficient incentives, for the various reasons outlined in Part IV. Nevertheless, even on tariffs, I have suggested that it would be helpful, when expanding beyond the existing list of 54 tariff sub-headings, to bring more parts and components within the negotiating scope.

More importantly, broadening the scope beyond tariffs will present several developing countries with the possibility of additional tangible benefits. With reduced opportunities for "free riding" and the lack of an alternative forum to

negotiate these additional issues, developing countries' willingness to join the talk increases. By not participating after the scope has expanded, some developing countries may fear that they are missing out to the detriment of their economic interests – a feeling not prevalent today when the negotiations remain confined to tariffs for the existing 54 sub-headings.

In its July 2014 announcement, the WTO indicated that the environmental goods negotiations will have a second phase to tackle issues beyond tariffs. However, the scope of what will be encompassed within that phase remains unclear. The ball lies in the court of the existing participants and the WTO Secretariat to determine the expanded scope within the next few years. In doing so, they will determine the extent to which other developing countries will find it attractive to join on to a plurilateral WTO environmental goods agreement. That decision, in turn, will affect the scale of the positive environmental impact of such an agreement.

VIII. CONCLUSION

As is the case with much of the Doha Development Agenda, tensions between developed and developing countries caused the multilateral negotiations over environmental goods to run aground. On the belief that something is better than nothing, the WTO decided to reconstitute the agreement as a plurilateral negotiation. The hope is that a partial subset of the most important economies can reach an agreement among themselves, and in the course of doing so, create a framework on to which others may be able to join in the future.

The upshot of all of this is that the global trade regime is experiencing growing fragmentation. In this particular instance, a sharp divide is emerging between developed and developing countries. Only China and Costa Rica so far have crossed the divide and joined 39 other advanced economies in participating in the new plurilateral negotiating initiative. For now, the other developing countries are all choosing to remain on the side-lines.

Should this emerging divide be of concern? From a trade perspective alone, possibly not, since the non-participating countries do not play a major role in the manufacturing of most environmental goods. Moreover, they can continue to enjoy the tariff benefits of any eventual agreement since the lower tariffs must be applied on a MFN basis.

However, the objective of a WTO environmental goods agreement has never been about trade alone. Equally as important are the environmental benefits of such a treaty. When viewed from that perspective, what is occurring may be more

troubling.²⁴⁶ Some of the most important countries for tackling emissions related to global climate change are proactively choosing to stay away from partaking in treaty negotiations that would help to facilitate increased trade in goods with environmental benefits.

This Article has suggested that the behaviour of such countries is rational and that the conventional explanation has missed the key reason for their absence. Developing countries are staying away not simply because, as some have suggested, they hope to preserve high tariffs to protect infant industries or as a form of political protest. Instead, as the analysis in this Article has suggested, the problem is simply that the potential payoff from the WTO negotiations, as currently structured, is much too small for most developing countries.

To understand the motivations of negotiating parties in today's multilateral negotiations requires moving beyond the traditional static analysis of trade in a specific product by a given exporter as governed by a given treaty regime. In today's world, trade liberalization is negotiated not only through the WTO, but multiple other fora, such as APEC, or through FTAs. One must consider the interactions between these various treaties and fora in order to understand the true benefits, or lack thereof, from further WTO liberalization. In addition, trade doesn't consist simply of goods, but also includes services. Finally, products are not necessarily manufactured in one country alone. One must consider the supply-chain implications and potential benefits that may accrue from securing a place on a global value chain. When the data is analysed with these perspectives in mind, a different picture concerning the motivation of developing countries emerges.

This Article has highlighted the importance of these conceptual points in the context of the WTO's environmental goods agreement, but they are likely to be applicable in other contexts as well.²⁴⁷ The WTO experience suggests that as traditional, multilateral talks become stuck, negotiations will shift to competing fora and the narrower, sector-based, plurilateral approach will emerge as an increasingly viable alternative. When this occurs, the underlying motivations of developing countries are complicated. To understand them requires diving into the details of trade patterns on a product level for specific export markets and analysing the potential gains from various competing fora. Even if large emerging powers, such as China, can be enticed into the negotiations, other developing countries will not necessarily follow. Unless tangible benefits are readily apparent,

²⁴⁶ *Id.* at 2 (quoting China's WTO Ambassador's as express a desire for more developing countries in particular to join the process).

²⁴⁷ Potential examples include other WTO sectoral agreements, broader climate change negotiations occurring through the UNFCCC or other forum, or other international economic initiatives driven out of the G20.

developing countries are content to remain on the sidelines. This suggests that even if the United States, European Union, and China can successfully exert joint leadership on climate change issues²⁴⁸, getting developing countries to make binding commitments with enforceable sanctions, whether on tariffs or emissions, will be difficult.

To effectively entice developing countries to the negotiating table requires parties to shift beyond the traditional lens of infant industry protection and political concerns. As illustrated in this context, these conventional explanations do not necessarily capture accurately the underlying hesitation of developing countries to join the new plurilateral negotiations that are becoming increasingly commonplace for global treaty-making. Instead, a more in-depth and nuanced analysis must be applied to understand developing countries' interests in light of the shifting landscape. In the WTO environmental goods agreement context, such an analysis suggests that attracting more developing countries on-board will require expanding the scope of negotiations to include additional environmental goods, services, and non-tariff barriers.

Following out of this analysis, this Article has attempted to set forth specific ideas for potential additional carrots and/or sticks to be added which will change the calculations of governments in developing countries. Whether governments in advanced economies are willing to embrace any of these ideas remains to be seen. In an era of rising trade plurilateralism, it is their collective decision on such questions that will determine the exact fault lines of the regime's growing rules fragmentation as well as the WTO's eventual impact in combatting global climate change.

²⁴⁸See Coral Davenport, *Deal on Carbon Emissions by Obama and Xi Jinping Raises Hopes for Upcoming Paris Climate Talks*, N.Y. TIMES, 12 Nov. 2014; Madeline Chambers, *Germany Steps Up CO₂ Cuts to Meet 2020 Climate Goals*, REUTERS, 3 Dec. 2014.