



# The EGA Negotiations: why they are important, why they are stalled, and challenges ahead\*

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## Abstract

Decade-long negotiations on the reduction of tariffs on Environmental Goods (EGs) at the Doha Round using a list approach to define EGs, failed to produce an agreement. In July 2014, 14 countries entered plurilateral negotiations under the ambit of the WTO. If successful, the resulting Environmental Goods Agreement (EGA) would have eliminated tariffs on a list of EGs. These negotiations broke down in December 2016. The chapter documents this episode and the mercantilistic behavior of negotiators that prevented agreement on an extended list of EGs, a requirement to conclude a meaningful outcome for the environment.

A conclusion of the EGA negotiations under the current narrow agenda focusing only on tariffs could help build trust to go further but would be insufficient to help mitigate climate change, even if a ‘critical mass’ were to be reached allowing extension of the tariff reductions to all WTO members. This is because average tariffs for the negotiating group are too low (1,5 percent). Extending the agenda to include Non-Tariff Barriers (NTBs) and Environmental Services (ESs) remains the acid test for an EGA to address meaningfully the climate change challenge. Reaching agreement on how to tackle NTBs and ESs will require delegating negotiating authority to ‘independent’ scientific experts and probably modifying WTO rules.

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\* This paper draws and summarizes Melo and Solleder (2018b) that covers the broader role required of a successful EGA to mitigate climate change. The authors thank the French government for financial support under ANR-LABX-14-01.

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## Abstract

... / ... Aligning the trade and climate regimes will call for transformational changes in the WTO contract to take into account transnational externalities and public goods. This would amount to a shift from the present 'negative contract' where countries are free to choose their policies so long as they do not discriminate between domestic and imported goods to a 'positive contract' where WTO members have to pursue similar climate-friendly policies.

In the wake of a decade-long stalemate at the WTO to reduce barriers for trade in Environmental Goods (EGs) and Environmental Services (ESs) during the Doha negotiations, at the margin of the January 2014 Davos meetings, a group of 14 countries committed to pursue 'global free trade' in EGs. The joint statement reads that the group is to "...build on the ground-breaking [see below] commitment to reduce tariffs on the APEC [Asia-Pacific Economic Forum (APEC)] list of 54 Environmental Goods by the end of 2015 to achieve global free trade in Environmental goods". This plurilateral agreement "...would take effect once a critical mass of WTO members participates....and we are committed to exploring a broad range of additional products" (Davos (2014)). This initial group (now extended to 17) included many APEC members plus Costa Rica, the EU, Norway, and Switzerland. These negotiations towards an Environmental Goods Agreement (EGA) were launched at the WTO in July 2014. If successful, these negotiations would have made a small contribution towards the Sustainable Development Agenda (SDA) adopted by the United Nations in 2015 and the Paris Accord of 2015 as the SDA agenda calls for taking action to combat climate change (Sustainable Development Goal (SDG 13)).

In the Davos communiqué, the APEC agreement was hailed as 'ground-breaking'. Still, the simple average tariff on the 54 goods on the list was 2.6%. Goods on the list only covered products for pollution prevention. Products that inflict less damage to the environment in their use or disposal were not considered. Yet, the APEC agreement has been considered a success. It has been said that the voluntary non-binding nature of APEC decisions could have encouraged members to be bolder than they would have been at the WTO in maintaining these lower tariff levels.<sup>1</sup> Also unlike other Regional Trade Agreements (RTAs), the benefits of the APEC outcome have been extended to non-participating economies like the EU.

In spite of the same modest agenda as at Doha and at APEC—tariffs only on the agenda-- the EGA negotiations broke down in December 2016, the parties failing to agree on how to extend an APEC(54) [numbers in parenthesis next to the lists refer to the number of HS6 level products in the list] list, the starting point for the negotiations.<sup>2</sup> This breakdown was prior to the takeover by Trump administration. This chapter recounts this episode. Two introductory sections describe hurdles faced

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<sup>1</sup> In 2012, APEC members pledged, on a voluntary basis, to limit tariffs on a list of 54 EGs to a maximum of 5% by end 2015. APEC members accounted for 70% of world trade for the products on the list. In some cases (e.g. natural-gas related technologies), products on the list may not be considered an EG. In other cases (e.g. non-wind powered generators and alternating generators) the products can be combined with renewable energy and fossil-fuel sources so they face the 'dual-use' problem.

<sup>2</sup> Paragraph 31(iii) of the Doha ministerial decisions of November 2001 states that negotiations would cover the 'reduction or, as appropriate, elimination of tariff barriers to environmental goods and services'.

during the negotiations and the anatomy of products that made it on two lists of EGs, one including goods for environmental management (WTO(411)) representative of countries that participated in submissions, another of Environmentally Preferable Products (EPP(106)) that would have likely figured on lists that would have been submitted by developing countries, had they participated. The remaining sections suggest ways forward to revive the negotiations.

## 1. Hurdles during Doha and EGA negotiations

From the start of the Doha negotiations, once NTBs and barriers to trade in ESs were excluded from the agenda, WTO members could not agree on the approach to follow (project, request and offer, or list). When high-income countries finally decided to go ahead with a 'list approach', developing countries refrained from participating because they feared that if EPPs were included, they would call for differentiation among 'like' products. This distinction would face opposition at the WTO.<sup>3</sup> Developing countries also feared that they would face large responses to trade liberalization on the import side, but not on the export side.

Several rounds of submissions at the Doha Round resulted in the WTO(411) compendium of all submissions. At the current HS6 level of product differentiation at the WTO negotiations goods are not distinguished by end use (e.g. pipes for sewage vs pipes for carrying fuels), the so-called 'dual-use' problem. Neither does the current HS distinguish how goods are produced, the so-called 'production and process methods'. And it is only for a few products (see below) that the new HS distinguishes goods by their impact on the environment (e.g. incandescent vs. LED lightbulbs).

Difficulties in obtaining a consensus about 'environmental goods' was evident throughout the successive rounds of submissions. Overlap across lists was minimal, an indication of the diverging perceptions and diverging interests. Most importantly, as expected from lists drawn up by negotiators, mercantilistic behaviour was apparent across the several rounds of submissions. Negotiators generally included in their lists goods in which their country had a Revealed Comparative Advantage (RCA) while they systematically excluded from their lists, goods with high tariffs.<sup>4</sup> If negotiators had taken on board the mandate of reducing barriers to trade in EGs, they would not have excluded systematically from their lists EGs with high tariffs. This systematic exclusion of goods with high tariffs contradicted the objectives of the Doha mandate to reduce environmental damage.

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<sup>3</sup> Developing countries have a comparative advantage in EPPs. These products cause less harm to the environment at all stages (production, use, disposal). Several EPP lists have circulated. Here we stick to the EPP list proposed by Tothova (2004).

<sup>4</sup> An RCA value for a product above (below) 1 indicates a comparative advantage (disadvantage) for the good. For example, China has a revealed comparative in bicycles (HS 871200) because its share in the world trade of bicycles (about 20% in 2014) is greater than its overall share in world trade (about 7%). China's RCA for bicycles is  $RCA=0.2/0.07=2.8$ . A tariff peak is a tariff that exceeds three times the country's average tariff. Comparisons of patterns of revealed comparative advantage across lists shows that the EU and the US would not have fared as well (in the sense of having higher values) for EG lists relative to non-EG lists if the emphasis were on products that do less environmental damage in production, use and disposal, Doha submitters would not have fared as well (see Melo and Solleder 2018b (figure 3))

## 2. Anatomy of the stalled negotiations at the EGA

Until December 2016 when negotiations were put to rest, negotiators wrangled over the time frame for elimination of tariffs and over extensions to the APEC list. Because the proposed text circulated to negotiators allowed for delays and exceptions, China requested (and was denied) the possibility of maintaining a tariff of 5 percent on 11 tariff lines. China, as a developing country member, also requested a three-year delay for removing tariffs. On the side of extending the list, bicycles and parts that have tariffs 9.7% in the US and 14.6% in the EU were proposed for inclusion by China but their inclusion has been opposed by the EU ([here](#)). Bicycles is an interesting case because, unlike different types of products subject to technical change justifying their addition or removal from an EG list (e.g. incandescent vs. LED light bulbs), regardless of technical progress, bicycles are an uncontroversial good. By any criterion, bicycles would always remain on a living list of EGs.<sup>5</sup> Bicycles emit no GHGs and have co-benefits by improving health indicators ([here](#)).

Also, at the time when negotiations were suspended, countries had not dealt with the possibility of defining products at the National Tariff Line (NTL) level where green products could be better distinguished than at the HS6 level. Nor had the modalities of importation (such as certificates of use) for goods with multiple end-use been discussed. Likewise modalities for the functioning of the Agreement (revision of the list, membership access for newcomers) had not been discussed. In sum, discussions revolved essentially on the goods that would enter the EG list.

### 2.1. Crumbs on the table

Table 1 gives indicators of barriers to trade in EGs with tariffs on the left and count estimates of NTBs on the right for 16 of the 18 negotiating countries (data for Lichtenstein and Chinese Taipei are missing)) across the lists discussed above along with an 'ALL' list, the universe of all HS6 level goods. Since production, use and disposal of any product has an impact on the environment, this list would be the most ambitious list EGA negotiators might envisage as a departure for negotiations. Negotiations would then revolve about subtracting 'clean' goods from the ALL list. Negotiations would then take a negative (rather than the current positive) approach to building a list of EGs, needless to say a more ambitious agenda.

Negotiations on tariff reductions tariffs are from GATT-bound levels, but these are close to the applied MFN tariffs reported in table 1. Applied MFN tariffs are a better representation of the required adjustment effort since negotiations call for an elimination of tariffs for the goods on the list. Average tariffs for EGs across all lists is very low, only New Zealand and Korea have an average tariff of 2% and China of 4%. For all countries, average tariffs are lower for the APEC and WTO lists than for the EPP and ALL lists. This reflects the product composition of these lists. Almost all goods on the APEC and WTO lists are intermediate products that face counter-lobbying by downstream producers using these goods as inputs. This pattern also hints at the political economy trade-offs facing negotiators. Upstream producers (e.g. producers or electric motors) want protection and

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<sup>5</sup> Bicycles are not on the Tothova EPP list. To avoid any misinterpretation, we have not modified any of the lists proposed so far.

downstream producers (e.g. vehicle producers) want zero tariffs on energy-efficient producers of electric motors. Finally, for all lists, trade-weighted average tariffs (not reported here) are less than simple averages (see averages at bottom of table 1).<sup>6</sup>

**Table 1: Trade Barriers in EGs across lists**

Country	Tariffs: Simple average				Prevalence of Non-Tariff Barriers <sup>a</sup>		
	All	APEC	EPP	WTO	All	EPP	WTO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
AUS	2.8	1.9	1.8	2.8	14.1	15.0	15.7
CAN	2.8	0.1	2.2	0.6	0.1	0.0	0.2
CHE	1.1	0	0.4	0	-	-	-
CHN	7.8	3.1	7.9	6.1	5.5	3.7	10.1
CRI	4.2	0.2	3.2	1.5	0.5	0.4	0.1
EUN	1.4	0.3	1.0	0.7	3.9	2.6	5.8
HKG	0	0	0	0	-	-	-
ISL	1.9	0.1	0.9	0.3	-	-	-
ISR	1.7	0.7	1.4	1.2	-	-	-
JPN	2.7	0	2.9	0.2	2.4	2.3	1.9
KOR	5.8	1.8	10.5	2.3	-	-	-
NOR	1.8	0	0.1	0	-	-	-
NZL	2.3	2.4	1.8	2.1	3.3	4.0	2.3
SGP	0.6	0	0	0	2.3	2.8	2.2
TUR	2.2	0.4	2.4	0.7	-	-	-
USA	2.5	0.7	2.6	0.8	6.9	7.6	8.0
Average <sup>b</sup>	2.6(1.7)	0.7(0.7)	2.4(1.8)	1.2(1.5)	4.3	4.3	5.1

**Notes:** NTBs are from the UNCTAD-WTO NTM data base (see text). Data for one year, mostly over the period 2013-5.

Figures rounded to one digit after the decimal

A dash line indicates that NTM data are not available.

**a.** The prevalence score is the average number of NTBs per line at the HS6 level. See text for selection of NTBs from the NTM data base

**b.** Corresponding trade-weighted average in parenthesis

**Source:** Authors' estimates.

<sup>6</sup>Displaying simple (rather than trade-weighted) applied tariffs avoids underestimating the importance of tariffs in the eyes of negotiators who are unlikely to have applied bilateral tariffs in hand, were they to be concerned about the magnitude of the expected adjustment from a reduction in tariffs.

Another indicator(not shown), the percentage of tariff 'peaks' (i.e. goods with a tariff that exceeds three times the average applied MFN tariff) is also low. Peaks, only exceed 10 percent for Korea for the EPP list. These low percentages reflect the success of the formula-based multilateral tariff reductions that have applied larger percentage cuts for high tariffs that are the most distortionary.

But these low averages combined with few high peaks evidences that negotiators have again been successful in their mercantilistic tactics: making up lists as a political exercise in which countries select goods in which they have particular interests and others agree in return for their own suggestions being accepted. Occasionally, as in the case of bicycles, there is a clash and the good does not make it on the list. Another is to remark that, by leaving it up to negotiators to decide, the foundations for a successful negotiation were not laid down.

## 2.2. The non-participation by developing countries

China and Costa Rica are the only developing countries participating in the EGA. Unlike China, Costa Rica's comparative advantage is for a narrow range of goods for both EGs and non-EGs so participation was not guided by the objective of getting market access for exports. Rather participation, was part of Costa Rica's commitment to put the economy on a green industrialization track. Thus, in 2008, while all other developing countries were opposing participation in a climate agreement, Costa Rica announced its objective to become carbon neutral by 2021. At the COP21, unlike most signatories, Costa Rica selected an absolute CO2 reduction target. By 2015, only 1.05 percent of electricity was used to generate power (Araya (2016, p. 14)). Also, Climate Tracker (2015) selected Costa Rica among the four countries with a satisfactory target in relation to the Paris Agreement objectives.

An important reason for non-participation by developing countries is their disappointment with the Technology Mechanism established in 2010 in application of article 4.5 of the UNFCCC adopted in 1992. The Technology mechanism which calls for engagement by developed countries to transfer technology to developing countries was a key condition imposed by developing countries to agree to the breakdown of the firewall between Annex-1 and non-Annex 1 countries established at the Kyoto Protocol. This breakdown amounted to an engagement by developing countries to submit Intended Nationally Determined Contributions. However, adoption of the Technology mechanism was not accompanied by a commitment for funding, nor by financial transfers (Coninck and Bhasin (2015)).

## 3. Next steps to revive the negotiations

Below are three options to revive the negotiations. The first, to eliminate nuisance tariffs is a way to 'declare victory' but will not help mitigate climate change. The second is to increase the number of goods with tariff levels worthy of 'exchange'.<sup>7</sup> This exchange through the request-offer approach

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<sup>7</sup> Because the efficiency gains from tariff reductions increase more than proportionately with the height of the tariff, it is desirable to include goods with high tariffs. Until the passage to a formula-based approach to tariff reductions under the Kennedy Round (1964-67), bilateral exchange through the request-offer approach focusing on high-tariff goods was the norm under the GATT. At the time, average tariffs were still high (15% percent) and the number of participants small (around 20-30 until the Dillon Round in 1960) similar to the number of participants in the EGA. Bown and Irwin (2015)

worked well in the early days of multilateral tariff negotiations. It was proposed, but discarded, during the Doha-Round negotiations, and also during the Uruguay Round by the US.<sup>8</sup> For the request-offer approach to be worthwhile, tariffs should be sufficiently high, perhaps 10% or more. These two options are explored below.

### 3.1. Eliminate Nuisance Tariffs and include high tariffs on an expanded list.

Agreeing on a list of 'nuisance tariffs' for elimination would be 'low hanging fruit' for negotiators and also a show of good will if it were on an expanded list of products merging the WTO and EPP lists, the EPP-WTO (480) list. This would amount to a small overture by EGA negotiators towards developing countries. A small gesture indeed, since even for the EPP list the average tariff for the group of countries is still very low (1.2 percent in table 1). Expanding the list to include EPPs would not involve any concessions by developing countries. (As a token, developing countries might offer a standstill, i.e. bind their tariffs to current applied levels on this expanded list.)

Negotiators would agree to the eliminate tariffs in two steps, starting with the elimination of nuisance tariffs. Shortly after, other tariffs would be eliminated. The limited number of tariffs above 10 percent suggests room for exchange, but this would be limited to a few countries, involving in each case China. Figure 1 shows the number of nuisance (< 3 percent) and the number of exchange (>10 percent) tariffs for the EPP-WTO(480) list.

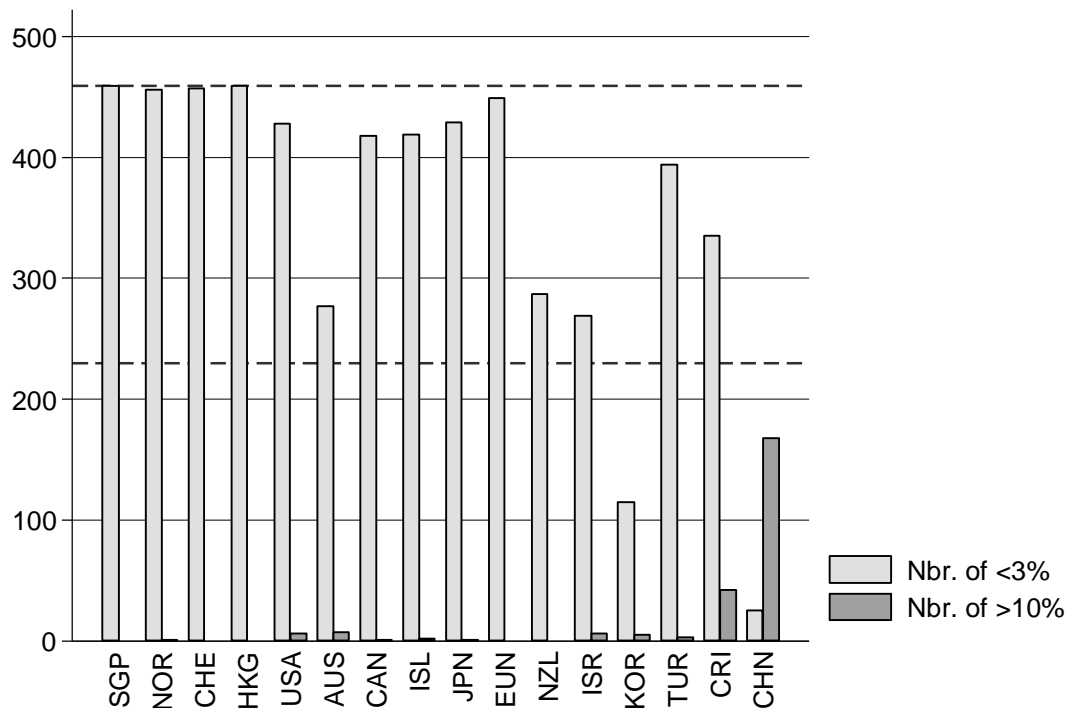
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estimate that average tariffs stood at about 22% in 1947 and were around 15% at the start of the Kennedy Round, levels appropriate for the request-offer approach.

<sup>8</sup> During the Uruguay Round, the US proposed the return to a request-offer approach because the linear reductions left little on the table and because "...modern data processing techniques made it possible to conduct request-offer negotiations efficiently" Hoda (2002, p.33).



Figure 1: Count of Nuisance (<3%) and Exchange (>10%) Tariffs for the combined EG list \*



\* Applied bilateral tariffs. Total number of products on vertical axis. Dashed lines at 100% and 50% of the total number of products on the list after conversion to HS-1992

Source: authors' estimates.

For 9 out of the 16 countries quasi or all tariffs are 'nuisance' tariffs. For only China and Korea are 'nuisance' tariffs less than a quarter of the goods on the list with China, the only negotiating country with a high number (168) of 'exchange' tariffs. Since nuisance tariffs would not be the across a few members (particularly Australia, New Zealand and Korea), some negotiation would be required. It might also be the case that, as under early GATT negotiations, some participants might still oppose their elimination.<sup>9</sup> Agreeing on a standstill for other non-nuisance tariffs on the list would still produce insignificant gains since most countries have a small gap to close between applied and bound rates. Including 'exchange' tariffs would be a small step forward, but figure 1 makes it clear that this depends on China which has, so far, been denied the inclusion of bicycles on the list.

### 3.2. Take Advantage of the new Harmonized System (HS17)

The latest update of the HS nomenclature (now HS17) could help the EGA agenda as it makes it less controversial to add and subtract products to EG lists. The new HS code (HS17) now distinguishes LED light bulbs from incandescent light bulbs. Countries that have already banned imports of incandescent light fixtures will find the ban easier to implement (LEDs emit about 30% less CO2 per watt than incandescent light fixtures). Tariffs on LED bulbs would be set to zero among members.

<sup>9</sup> During the Uruguay Round, the EEC strongly opposed the elimination of nuisance tariffs (3% or less) unless no compensation or credit were claimed for such action. Hoda (2002, p.34).

Likewise, the new HS has three categories of automobiles (hybrid, plug-in hybrid, and electric vehicles). For automobiles, the reduction in emissions from hybrids and all-electric cars will depend on the source of electricity generation. Tariffs could be set to zero for all-electric automobiles even though the resulting environmental benefits would depend on how electricity is generated.

#### 4. Moving on towards a meaningful EGA

Delegation of negotiating responsibility to an independent committee of experts would be a first necessary step for tackling a more ambitious agenda but this is not part of the institutional governance under the current WTO. This would make it easier to extend the agenda beyond tariffs to include Non-Tariff Barriers (NTBs) and barriers on Environment Services (ESs) especially because identifying barriers to trade in both is difficult, let alone evaluating their effects.

##### 4.1. Entrust an independent Committee of Experts

To overcome the mercantilistic behaviour that prevailed during the Doha negotiations, EGA negotiators should have started with a statement of purpose clarifying the “Objective” of the EGA in a preamble or stating the purpose in the Articles of the Agreement. This would have been followed by the nomination of a commission of experts that would have been instructed to suggest criteria for inclusion and modification of lists, once created.<sup>10</sup> This is a complicated task though, as noted by Cosbey (2015), it has been done in other environmental treaties. Such a body would also be necessary to revise goods on the EG list.<sup>11</sup> However, if past nominations of experts on commissions is a guideline, any commission would likely be, once more, populated by negotiators.<sup>12</sup>

##### 4.2. Include Non-Tariff Barriers (NTBs) and Environmental Services (ESs)

NTBs are barriers to trade that do not correct for a market failure. Taken broadly, NTBs include, contingent-protection measures, local-content requirements, growing anti-dumping duties in the renewable energy sector and weak intellectual property regimes. NTBs are a subset of NTMs. NTBs are difficult to disentangle from the broader category of Non-Tariff Measures (NTMs)<sup>13</sup>

Many NTMs have informational content that help address market failures. For example, Minimum Energy Performance Standards (MEPS) and labelling, mandatory and voluntary, help inform buyers

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<sup>10</sup> The committee of experts would have considered adopting a living list with criteria for listing and delisting goods. Controversial proposals could then be decided by a 2/3 majority as under the Convention on International Trade in Endangered Species (CITES). See Cosbey (2015) for further discussion and the difficulties of dealing with delisting.

<sup>11</sup> Cosbey (2015) gives examples of Environmental Treaties where decisions are made with the help of scientific committees and majority voting procedures. Amendments to CITES are from criteria on decline of population and the Stockholm Convention of list

<sup>12</sup> Coninck and Bhasin (2015) attribute the disappointing performance of the Technology Mechanism to a lack of resources and to the setting up of a policy arm (the ‘Technology Expert Committee’) made up in majority of “...climate negotiators which hampers practical discussions and replicates the same deadlocks and differences that can be observed in the climate negotiations” (p. 457).

<sup>13</sup> NTBs are difficult to distinguish from NTMs. The count measures for NTBs is applied to the customs category in the classification in Ederington and Ruta (2016) augmented by contingent trade-protection and local-content measures. See Melo and Solleder (2018b) for further discussion.

and can reduce environmental damage. These MEPS vary greatly across countries which imposes costs associated with conformity assessments.

NTMs are almost always captured by a zero-one count at the HS6 level. Count indices are not comparable across countries because collection criteria are decided at the country level (see e.g. the high count for Australia in table 1). So the high prevalence scores for most EGA countries in table 1 cannot be unequivocally interpreted as regulatory stringency as one particular form of NTMs could be much more stringent than several different NTMs combined at the same product. Prevalence scores are best viewed as a measure of the regulatory obligations faced by trade flows.

This said, two patterns stand out in table 1. First, the prevalence scores are generally higher for high-income countries, a reflection of the observation that the number of NTMs on products is positively correlated with measures of product quality which increases with per capita income. Second, China has an average number of NTMs per HS6 line ranging between 3.7 (EPP list) and 10.1 (WTO list)

This high number of NTMs measures suggests that regulatory recognition/harmonization would be a promising avenue to move EGA negotiations forward. Mutual Recognition Agreements (MRAs) are encouraged under article 6.1 of the TBT agreement which obliges WTO members to use “relevant international standards” for both technical regulations (article 2.4) and conformity assessment measures (article 5.4). Sugathan (2016) documents the costs imposed by lengthy conformity assessment procedures. He suggests that cooperation among EGA members could lead to a plurilateral MRA on conformity assessment which would reduce these costs. Cooperation could extend from a simple exchange of information to recognition of mutual equivalence as is the case in the EU Services Directive mentioned below.<sup>14</sup>

Agreement on common labelling, a domestic measure, could also be a first-step objective for an EGA. Obtaining cooperation would be easier in a small-group setting, but still complicated under the current WTO legal framework. Take industrial electric motors as example. Adopting the same Minimum Efficiency Performance Standard (MEPS) for electric motors through labelling, would be an example of regulatory convergence.<sup>15</sup> Next, new HS6 codes should be created at the WCO (HS codes are modified once every five years). This could open the way for negotiated zero tariffs reductions for the most efficient category. However, because technical progress will result in new products, procedures to add and take off products from the list would have to be agreed among members. Tariff reductions would then only apply for the most energy efficient category. Ideally, WTO law would have to be modified to allow imposing tariffs on the least efficient category. Currently, this is not possible under GATT law which precludes raising bound tariffs once these have been lowered or eliminated.<sup>16</sup>

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<sup>14</sup> Bhagdadi et al. (2013) estimate that GHG emissions per capita are only lower and converge only for Regional Trade Agreements with environmental provisions. Controlling for other determinants of bilateral trade in EGs, Melo and Solleder (2018a) estimate that bilateral trade increases with the extent of regulatory overlap, an indication that regulatory disparity raises trade costs.

<sup>15</sup> The International Electrotechnical Commission has published a standard of efficiency for electric motors with three levels of efficiency that has been adopted by many countries. See Sugathan (2016).

<sup>16</sup> Furthermore, under current WTO law, labelling falls under the Technical Barriers to Trade (TBT) agreement where ‘likeness’ is not adjudicated by reference to the HS but by consumers. So in case of a complaint by a WTO member that is

### 4.3. Include Environmental Services (ESs)

A reduction in tariffs and in welfare-reducing NTMs should help diffuse products and technologies that reduce environmental damage to developing countries. But these products and technologies are often part of projects that include ESs. The degree of ‘jointness’ in environmental projects is great especially for projects in developing countries but it is difficult to measure. Unfortunately, ESs have been excluded from the EGA agenda. They are covered under the negotiations for the Trade in Services Agreement (TiSA) negotiations among 23 members started in 2013.<sup>17</sup>

If on the agenda, progress at liberalizing trade in ESs would still be difficult. First many services do not cross customs so missing data is pervasive. Second building indicators of restrictiveness in Services is even harder than for NTBs. Even though there is evidence that trade costs in Services are high, and are probably falling, disparity in estimates across countries and sectors is high (Anderson et al. 2015). Even with a better list of ESs, negotiators are likely, once more to stumble when it comes to agreeing on a more appropriate list than the current UN CPC W/120 list.

In sum, measuring impediments to trade in Services (beyond ordinal score commitments on market access and national treatment—See Melo and Vijil figure 1) is at least as hard as for NTBs. It is also harder to monitor the fulfilment of commitments to liberalization for Services. Consequently, disincentives to negotiate on ESs will be strong, especially when negotiating partners have little trust in each other. This is why Messerlin (2013) suggests that mutual equivalence in selected services sectors might be easier to achieve than going for harmonization. Mutual equivalence would also be preferable for third parties not participating in the negotiations as they would be free to choose the least costly regulation. Mutual equivalence was the route followed by the EU Services Directive. Following this path might be difficult in the context of the EGA as mutual evaluation is a first step in the process. This evaluation would require conformity assessments that will involve regulators in charge of the Services under consideration.

## 5. Conclusions

With multilateralism under increasing threat, success in the EGA negotiations is important for the relation of World Trading System and the Climate regime. First, as a plurilateral agreement where the tariff reductions would be extended to all WTO members. This would be the case if a “critical mass” is achieved (usually between 85 and 90% of trade in the products covered), and there is no objection by other WTO members. Second, if one takes a ‘value chain’ perspective that recognizes that goods cross borders multiple times, low tariffs will have a cumulative effect so a zero tariff is still the desirable goal.<sup>18</sup> Third, the Treaty would satisfy the Monitoring, Reporting and Verification

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not part of the EGA that the labelling is unnecessary and discriminatory, so far WTO case law has ruled that it is up to the consumer to decide if the labelling, which has to be non-discriminatory, is necessary (Mavroidis and Melo (2015)). A move towards a WTO 2.0 is then necessary for labelling to contribute to avert climate change.

<sup>17</sup> As with the EGA, TiSA would be multilateralized if a critical mass is achieved which is unlikely because the BRICS are not participating. From a procedural standpoint, at the WTO, liberalization negotiations on EGs fall under the Non-Agricultural Market Access (NAMA) negotiations Committee while negotiations on market access for Services fall under the GATS.

<sup>18</sup> Moreover, benefits to consumers should not be ignored. As an example, using household expenditure surveys for the US, Mahlstein and McDaniel (2017) estimate that lower prices on EGs would give a household saving of \$485 million per

criterion which is still eluding implementation of the Paris Agreement on climate Change. This is because the pledges on tariff reductions are easily verified through the National Treatment and Non-discrimination principles at the GATT that apply to all WTO members. Fourth, a success would have a much needed demonstration effect. Success would give support to those who argue that an issue-specific 'club approach' to climate (and environmental) negotiations would be a promising route to build a sustainable climate and environmental architecture. Fifth, a green goods agreement would be an 'issue-based' (as opposed to the current 'country-based') WTO plurilaterals. Since it is often said that the WTO has to move towards 'issue-based' plurilaterals to deliver on the SDGs, the EGA would then serve as a benchmark for other issue-based agreements among a subset of WTO members.

Beyond eliminating tariffs on 'nuisance tariffs' that will provide no tangible benefits for mitigating climate change, this review is clear that the needed extensions to the EGA agenda will remain elusive under the present WTO legal structure. Entrusting negotiations to an independent scientific body is, however beyond the institutional character of the current WTO. And for the environment, the agenda would need to be extended to include NTBs and barriers to trade in ESs which are complementary to trade in EGs and have not yet been liberalized under the GATS. Such a deep engagement would be the acid test that the WTO can help build the cooperation that will be needed to fulfil the SDA.

It remains that even with a more ambitious EGA agenda, the trade and climate regimes would still need further alignment. Recall that to obtain participation, the framers of the GATT left the selection of domestic policies, including environmental policies, to the discretion of members so long as they were applied in non-discriminatory terms. The result was a 'negative contract' that has not yet evolved under the WTO. A total recall—call it WTO 2.0 — is needed to address the growing transnational externalities in world trade. Under this 'positive contract', members would supply and protect public goods with the WTO mandated by members to play a more active role in protecting public goods. Entrusting decisions—or at least giving greater weight to independent scientific advisory bodies perhaps through decisions by majority—would be an integral part of this new WTO and perhaps the first step in a shift towards comprehensive regime governing efforts to limit the extent of climate change.

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year, disproportionately benefitting lower-income households. Switching to more energy-efficient light bulbs would save 238 million kilowatt hours, equivalent to 120% of the GHG emissions from coal in the state of Maine.

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*“Sur quoi la fondera-t-il l'économie du monde qu'il veut gouverner? Sera-ce sur le caprice de chaque particulier? Quelle confusion! Sera-ce sur la justice? Il l'ignore.”*

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