

Chatham House, 10 St James's Square, London SW1Y 4LE T: +44 (0)20 7957 5700 E: contact@chathamhouse.org.uk F: +44 (0)20 7957 5710 www.chathamhouse.org.uk

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Developing Country Perspectives on Carbon-Based Competitiveness, Trade and Climate Change Linkages

Vicente Paolo B Yu III

Programme Coordinator, Global Governance for Development Programme, South Centre

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1 Introduction

Negotiations are taking place among countries which are Parties to the United Nations Framework Convention on Climate Change (UNFCCC) under the Bali Action Plan (BAP)¹ adopted by the UNFCCC Conference of the Parties (COP) in Bali, Indonesia, in December 2007, for the purpose of arriving at an agreed outcome that would serve as the basis for long-term global cooperative action in enhancing the full, effective and sustained implementation of the UNFCCC.

At the World Trade Organization (WTO), countries that are members of the WTO have been engaged in trade negotiations that commenced in December 2001 under the WTO Doha Ministerial Declaration and which places the needs and interests of developing countries² at the heart of the negotiations.³

Issues that link trade competitiveness and climate change policy reflect in many ways the policy considerations that underlie how developing countries view these two policy regimes. This paper will seek to highlight views that are commonly or broadly shared by developing countries, focusing on the political and economic considerations that underlie them.

2 The general principles which underpin developing country responses

For developing countries, the jumping off point in addressing the trade and climate linkage is how both policy regimes and their linkages with each other affect the sustainable development⁴ prospects of developing countries.

Global trade (and competitiveness relationships) as shaped by both the international rules and disciplines under the WTO and the structure of the global trade market can influence a developing country's economic development prospects. Trade policy therefore is an important policy tool that a developing country can use to advance its development objectives. At the same time, climate change and its impacts are increasingly shaping the environment under which economic activity takes place in developing countries. Hence, climate change policy is also an important element in a developing country's development policy toolbox.

This "development lens" reflects the fact that for developing countries, achieving sustainable development remains the primary and overriding national policy objective.⁵ The underlying

¹ UNFCCC, Decision 1/CP.13.

 $^{^{2}}$ For the purposes of this paper, the term "developing countries" refer to countries that are members of the Group of 77 in the context of the UNFCCC and countries that consider themselves to be developing countries in the context of the WTO.

³ WTO, Doha Ministerial Declaration, WT/MIN(01)/DEC/1, 20 November 2001.

⁴ For the purposes of this paper, sustainable development means the achievement of improved living standards and income levels for the population with greater levels and types of diversified agro-industrial economic activity under conditions that generate full employment opportunities and are socially and intergenerationally equitable, ecologically sustainable and adapted to climate change impacts.

treaty regime and negotiating mandates for both the current trade and climate change negotiations provide ample basis for such an approach by developing countries. In fact, sustainable development is the foundation for effective societal responses to trade and climate change challenges.

In the UNFCCC, the concept of sustainable development as the foundation for global action on climate change can be seen in, inter alia:

- Art. 3.4 which recognizes the right to promote sustainable development;
- Art. 4.7 which provides for the balance of obligations among UNFCCC Parties and which requires that in implementing UNFCCC obligations, the Parties must "take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties." This balance of obligations in Art. 4.7 basically states that the extent of implementation by developing countries of their UNFCCC commitments depends on the extent to which developed countries implement their obligation to provide finance⁶ and technology⁷ to developing countries. Developed countries are also obliged to undertake binding reductions in their GHG emissions under Art. 4.2(a) and (b) whilst developing countries are not;
- Art. 2 on the objective of the UNFCCC requires that global climate actions to stabilize atmospheric concentrations of GHGs (such as the mitigation actions of developed countries under Art. 4.2(a) and (b) and the Kyoto Protocol⁸) must be done within such timeframes as would allow ecosystems to adapt, secure food supplies, and allow for sustainable development to take place.

In the same vein, the WTO Agreement in its preamble also explicitly states that sustainable development is an institutional objective. This preambular statement, according to the WTO Appellate Body in the US-Shrimp Turtle case, gives "colour, context and shading to the rights and obligations of members under the WTO Agreement, generally, and under the GATT 1994, in particular."⁹

⁵ By and large, developing countries in both the WTO and climate change regimes insist on having their development interests, broadly defined, be placed at the centre of the negotiations or discussions. But given the wide diversity of economic conditions and perspectives among developing countries, there are instances in which there may not be common positions amongst them with respect to specific issues in both regimes. However, it is largely still the case that developing countries do seek to assert common development interests and concerns in both the trade and climate regimes than otherwise.

⁶ Embodied in UNFCCC, Art. 4.3, 4.4 and 4.5.

⁷ UNFCCC, Art. 4.5.

⁸ Due to the application of the principle of common but differentiated responsibility, developing countries are not subject to binding emission reductions, although they do have some commitments in common with developed countries under Art. 4.1 of the UNFCCC.

⁹ See WTO Appellate Body, Report of the Appellate Body: United States – Import Prohibition of Certain Shrimp and Shrimp Products, WT/DS58/AB/R, 12 October 1998, para. 155.

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The relationship between trade and climate change measures in the climate regime is governed by, among others, Art. 3.5 of the UNFCCC which states that "measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade." This language, in fact, reflects Art. XX of the General Agreement on Tariffs and Trade (GATT), which allows WTO members to adopt measures that may be inconsistent with their WTO obligations if such measures are, inter alia, "necessary to protect human, animal or plant life or health" or are related "to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption", provided that these measures "are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade."¹⁰

Policy approaches to trade and climate change linkages are therefore premised under both the UNFCCC and WTO on a clear recognition of the right to sustainable development and the need to ensure that such right is promoted and effectively achieved. Maintaining the focus on promoting and achieving the right to development, especially development that is sustainable, is therefore essential for meeting the objectives of both the climate regime under the UNFCCC and the trade regime under the WTO.

In doing so, trade measures (including unilateral ones) that may be imposed to combat climate change must not, among other things, discriminate against the international trade of developing countries inconsistently both WTO rules and Art. 3.5 of the UNFCCC. In addition, such trade measures must be undertaken taking into account the development needs and priorities of developing countries – i.e. they must be designed and implemented in such a way that they support rather than hamper the achievement of developing countries' development objectives.

3 Developing country issues with respect to trade-related measures in addressing global climate concerns

From the perspective of developing countries, trade measures¹¹ are not necessarily the best nor the most appropriate means for addressing climate change concerns. Rather, there is great concern that the use of trade measures by developed countries ostensibly to address climate change concerns may in fact have the effect of restricting the market access of developing country products in developed countries and enhancing the competitive edge that

¹⁰ See WTO, 1994 GATT, art. XX(b) and (g).

¹¹ These trade measures include, but are not limited to, tariff liberalization for certain goods, standard setting, border adjustment measures (such as the imposition of carbon contentbased duties on imports or tax rebates on exports), and sectoral approaches (e.g. establishing emissions caps for specific industrial sectors using sector-based rules or standards).

developed countries have in global trade, thereby "locking in" the current inequitable development gap between developed and developing countries.

3.1 Tariff liberalization of climate change-relevant environmentally sustainable technologies

In the WTO, developed countries and regional groupings such as the European Union (EU) and the United States have pushed for the removal of tariff and non-tariff barriers by all WTO members on the cross-border trade of "goods and services that contribute to environmental protection."¹² They argued that doing so would contribute to addressing climate change by enhancing the transfer of climate-relevant technology to developing countries. The US-EU proposal, had it been agreed to at the WTO, would have committed WTO members, including developing members, to "work towards an even more ambitious and far-reaching result in terms of expanding market access for environmental goods and services."

The competitive market opening objective of the EU and the US underlying their proposal is clear in that:

- the basis for the US-EU proposal is their existing market access-oriented proposals that have already been rejected by developing countries;
- it completely lacks any reflection of developing country proposals on how to ensure a development-oriented outcome; and
- it does not make suggestions about how to solve the technical difficulties that have discredited the list-based approach to identifying environmental goods at the WTO. For instance, the inclusion of certain products in the list proposed by the EU and the US have already been criticized because these products could serve both environmental and non-environmental purposes.

With respect to environmental goods, the proposal's argument that trade liberalization would lead to greater access by developing countries to the products identified in the US-EU proposal falls on the following points:

• The list of products proposed, given their greater technological content, means that they are mainly produced by developed countries.¹³ Given their price (due to higher production costs, value added, and royalty payments arising from the

¹² See the joint EU and US proposal on climate-related goods in Job(07)/193, 29 November 2007.

¹³ The list of products in the US-EU proposal was drawn from a World Bank study that identified 43 products as being directly relevant to climate mitigation (out of a list of 153 environmental goods identified by some developed countries in an April 2007 submission [Job(07)/54] to the WTO environmental goods negotiations). The World Bank study notes that while developing countries' trade in climate-friendly technologies is growing rapidly, "these countries continue to be net importers overall." See World Bank, International Trade and Climate Change: Economic, Legal, and Institutional Perspectives (2008), p. 79. (hereafter WB Trade and Climate)

embedded intellectual property rights¹⁴) and technical content, they may hence be difficult for resource-constrained developing countries to acquire or, once acquired, to adequately maintain them using only local technicians and materials;

- Even while developing countries may theoretically have commercial access to such products, the large-scale utilization and promotion thereof would still need to be anchored on a solid institutional and regulatory framework to ensure that they are absorbed and utilized in a way that provides developmental benefits. Such framework may often be difficult to immediately establish in a resourceconstrained context, unless done carefully, sequentially and strategically;
- a focus on the elimination of trade barriers is overly narrow and, in a developing country context, has the potential to limit or wipe out the ability of developing country producers to develop sufficient production and competitive capacity with respect to such environmental goods and services;
- trade liberalization of such goods by itself will likely not have a great impact in terms of GHG emission reductions and, furthermore, might not even result in greater trade flows of such goods¹⁵.

When the proposal was discussed during the trade ministers' meeting on climate change hosted by Indonesia on the sidelines of the 13th UNFCCC COP in December 2007, it was sharply criticized by developing countries that participated in the meeting.¹⁶ In particular, criticisms focused on its failure to effectively address concerns identified in developing country proposals for an integrated or project-based approach¹⁷ as well as other developing country proposals.¹⁸

¹⁴ IPRs may act as a barrier to the transfer to and access by developing countries of climatefriendly technologies, whether through trade or other modalities, through, for example, excessive royalty fees, refusals to license, "ever-greening" of patents by patent holders, patent litigation, and patent-based constraints on innovation. See e.g. South Centre, Accelerating Climate-Relevant Technology Innovation and Transfer to Developing Countries: Using TRIPS Flexibilities Under the UNFCCC (draft, hereafter South Centre TRIPS and UNFCCC draft); see also ICTSD, Climate Change and Trade on the Road to Copenhagen: Policy Discussion Paper, December 2008, p. 32. (hereafter ICTSD Copenhagen)

¹⁵ See e.g. ICTSD Copenhagen, supra, p. 31, noting that "[a] whole host of complementary measures – regulatory, capacity building, financial and technology-related – will be required. ... demand for these products [the 153 "environmental goods" suggested by developed countries in the WTO] may be determined by factors other than tariffs such as GDP, foreign direct investment, enforcement of environmental regulations (shown by environmental performance indices) and the number of bilaterally-funded 'environmental' projects."

projects." ¹⁶ See e.g. TWN, Trade ministers propose more intensive trade-climate engagement, TWN Bali News Update 8, 11 December 2007.

¹⁷ See e.g. TN/TE/W/51 (3 June 2005), TN/TE/W/57 (4 July 2005), TN/TE/W/60 (19 September 2005), TN/TE/W/67 (19 June 2006) of India; TN/TE/W/62 (14 October 2005); Job(07)/77 of India and Argentina.

¹⁸ Submissions by TN/TE/W/59 (8 July 2005) of Brazil; TN/TE/W/55 (5 July 2005) of Cuba. In oral statements in various meetings of the Committee on Trade and Environment Special

Market opening by developing countries to developed countries' environmental goods through precipitate tariff and non-tariff barrier elimination inconsistent with their development context could lead to a situation of technology-dependency in which developing countries depend on developed countries as the providers of such goods without developing the ability to manufacture such goods on their own. A more appropriate approach requires the promotion of broader policy measures designed to support developing countries' ability to adopt, adapt, and innovate on such goods (such as flexibilities in innovation and intellectual property regimes, non-commercial technology and skills transfers, support to research and education, support to infrastructural development) as well as develop their own environmental goods in order to support economic development and diversification efforts. Such an approach would also need to be accompanied by adequate financing facilities to ensure that innovation and industrial diversification effectively materialize.

3.2 Intellectual property rights

An essential component of global action to address climate change is the continuous innovation and rapid diffusion of climate-related environmentally sound technologies (ESTs) under conditions that would allow all countries, especially developing countries, to eventually adopt, adapt, innovate and produce such technologies on their own..

Although the transfer of ESTs from developed to developing countries is, under the UNFCCC and its Kyoto Protocol, a treaty commitment on the part of developed countries,¹⁹ actual transfers on a non-commercial basis have not really taken place.²⁰ Developed countries, in general, tend to view commercial transaction-based modalities (such as trade and investment)

²⁰ For example, a recent study of the extent to which climate-relevant technologies have been transferred from their origin countries, as measured by the extent to which an invention is patent in a country outside of the country of invention, indicates that the Kyoto Protocol (and by extension the UNFCCC) "does not seem to have had a significant impact on the international diffusion of climate mitigation technologies", pointing out that there was essentially no additionality in terms of the internationalization and diffusion of patented technologies as a result of the UNFCCC and the Kyoto Protocol. See Antoine Dechezleprêtre et al, Invention and Transfer of Climate Change Mitigation Technologies on a Global Scale: A Study Drawing on Patent Data - Final Report, December 2008, p. 23. (hereafter Dechezleprêtre). Such a conclusion clearly implies that developed country Parties, which are mainly the countries of invention for many patented technologies, have not taken any effective steps to comply with their UNFCCC and Kyoto Protocol treaty commitments to promote and encourage technology transfer (if they had done so, there would have been greater increases in the growth rate for climate mitigation technologies as compared to the overall average growth rate for all technologies). In fact, the study points out that 75 percent of patent internationalization and transfers (e.g. patenting outside the country of invention) "occur between developed countries" and that the same phenomenon with respect to developing countries "are still limited (18%) but are growing rapidly." Ibid., p. 29.

Session, Argentina, Brazil, Colombia, Bolivia, Venezuela, Paraguay, Ecuador, Egypt, South Africa, China, and others all stressed the need for development to be a major component in the negotiated outcome.

¹⁹ UNFCCC, Art. 4.5. See also Kyoto Protocol, Arts. 10(c) and 11.2(b). On this same point, TRIPS Art. 66.2 also contains a treaty obligation for developed countries to provide incentives to their enterprises and institutions in order to promote and encourage technology transfer to least-developed countries.

as the primary means for transferring ESTs to developing countries. Developing countries, on the other hand, have generally viewed such transfers as non-commercial activities that must be undertaken or supported by developed country governments in compliance with their treaty commitments.

Having EST transfers from North to South primarily take place through private sector-driven commercial transactions would subject such transfers to the vagaries and difficulties of international commercial trade relations – in terms of accessibility due to the cost and other terms of transfer, sale or licensing, the adaptability and appropriateness to the development and other conditions of the receiving party, and the innovation constraints arising from IPRs that may be embedded in such ESTs.²¹ For the transfer of ESTs to be effective in terms of delivering on its intended climate and development benefits, it has to take place under conditions that would allow for the development of local capacity in the recipient to eventually produce its own ESTs.

As developed countries have by and large not fulfilled the technology transfer commitments under the UNFCCC, overcoming IPR barriers to technology transfer – both perceived and actual – is a challenge for developing countries. IPR issues are important to consider since most ESTs are patented technologies owned by firms in developed countries. ²² ²³ Furthermore, there are an increasing number of patents on climate related technologies, including with respect to the number and scope of patent claims in wind energy and biofuel technologies.²⁴ This could pose serious concerns about the adverse effect of patents and IPRs on climate-related technology transfer. Of course, on the other hand, it should also be noted that there are also many current ESTs that are produced in developing countries, and where patents may be held in developing countries, such as some types of solar panels. In

 ²¹ Martin Khor, Note on Access to Technology, IPR and Climate Change, TWN Bonn Briefing Paper 1, June 2008, para. 6. (hereafter Khor)
 ²² At present, the global frontier in technology invention and innovation is dominated by

²² At present, the global frontier in technology invention and innovation is dominated by developed countries. The vast majority of patents and scientific journals are concentrated in developed countries, with very little or no activity in most developing countries. Core technologies are mainly imported from developed countries. China estimates that over 85% of patents in many of its core high-technology economic sectors are owned by companies based in developed countries. See e.g. Shane Tomlinson et al., Innovation and Technology Transfer: Framework for a Global Climate Deal (2008), p.56.
²³ As Khor notes, "[w]hether IPRs constitute a barrier or an important barrier depends on

²³ As Khor notes, "[w]hether IPRs constitute a barrier or an important barrier depends on several factors, such as whether or not the particular technology is patented, whether there are viable and cost-effective substitutes or alternatives, the degree of competition, the prices at which it is sold, and the degree of reasonableness of terms for licensing, etc. Some technologies are in the public domain, or are not subjected to patents. But many key technologies are patented. And many technologies of the future will also be patented." See Khor, supra, para. 8.

²⁴ See e.g. <u>http://www.epo.org/topics/innovation-and-economy/emerging-technologies/article-10.html</u> and <u>http://www.epo.org/topics/innovation-and-economy/emerging-</u>technologies/article-7.html.

such cases, the same considerations with respect to IPRs serving as potential barriers to South-South technology transfers with respect to ESTs may also apply.²⁵

For example, a UNDP study on the transfer of low carbon technologies to developing countries points out that it is questionable whether technology transfer under stringent IPR regimes in developing countries can have long-term benefits for the recipient developing country. Recipient firms in these countries may be less likely to gain access to the underlying knowledge that is necessary to develop technological capacity within the recipient country, and thus it can retard the recipient country's long-term ability to absorb and innovate on the basis of new low carbon technologies, which is critical for their sustainable development.²⁶

Another study also points out that the informative effects of patent grants through disclosure do not necessarily amount to enhancing technological capacity for developing countries.²⁷

Furthermore, it has been pointed out in a study by the Sussex Energy Group that developing country firms do not seem to have access to the most cutting edge technologies, and where they have had access to cutting edge technologies, there are doubts about the extent to which they have had access to the know-how underlying those technologies.²⁸

Finally, IPRs held over ESTs, largely by firms in developed countries, can and have impeded the ability of developing countries to have meaningful and affordable access to ESTs through:²⁹

High royalty fees;

²⁵ It should be noted, however, that there are already South-South technology transfer and cooperation initiatives taking place, some of which are recent and some of which are long-standing. These include, for example, the recent establishment of the China-Brazil Center for Climate Change and Energy Technology Innovation, the long-standing Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre), as well as bilateral South-South technology transfer anc technology development cooperation arrangements. In any case, the extent to which IPRs may constitute barriers to South-South technology transfer would seem to be of much less concern as compared to North-South transfers in view of the fact that by and large, patents for ESTs are owned by firms based in developed countries.
²⁶ Jim Watson et al., Technology and Carbon Mitigation in Developing Countries: Are Cleaner

²⁶ Jim Watson et al., Technology and Carbon Mitigation in Developing Countries: Are Cleaner Coal Technologies a Viable Option?, in Human Development Report 2007/2008, Fighting Climate Change: Human Solidarity in a Divided World, Human Development Report Office, UNDP Occasional Paper 2007/16, p.6. Moreover, the study also points out that access to key patents by developing country firms in itself is not sufficient for effective technology transfer because full use of the patent is likely to require access to a variety of related information sources that are not sufficiently disclosed or fully explained in the patent itself.
²⁷ Carlos M. Correa, Technology Transfer under International Intellectual Property Standards,

²⁷ Carlos M. Correa, Technology Transfer under International Intellectual Property Standards, in Keith E. Maskus and Jerome H. Reichman (eds), International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime (2005), pp. 239-40

²⁸ David Ockwell, Intellectual Property Rights and Low Carbon Technology Transfer to Developing Countries – A Review of the Evidence to Date, UK-India Collaboration to Overcome Barriers to the Transfer of Low Carbon Energy Technology: Phase 2 (April 2008), p.5

p.5 ²⁹ Examples of these barriers can be found in Khor, supra, para. 19; and in South Centre, TRIPS and UNFCCC draft, supra.

- Refusals to license;
- "Ever-greening" of patents³⁰;
- Increasing patent litigation; and
- Impediments to innovation.

Under the TRIPS Agreement, there are some flexibilities available to developing countries in order to promote their development policy objectives (including effective adaptation to climate change). These flexibilities include, but are not limited to, compulsory licensing, parallel importation, exemptions to patentability, exceptions to patent rights and competition policy. In addition to these, national IP laws may also contain flexibilities on which the TRIPS Agreement is silent, like grounds for revocation of patents.³¹ Finally, least-developed countries could seek full compliance by developed countries of their TRIPS Agreement obligation to provide "incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country members in order to enable them to create a sound and viable technological base."³² In addition to such TRIPS flexibilities, developing country WTO members could also seek a WTO Ministerial Declaration on TRIPS and Climate Change in order to provide greater clarity and additional flexibility to the use by developing countries of TRIPS flexibilities in relation to climate-related ESTs.³³

As a result of such concerns, and taking into account TRIPS flexibilities available to them, developing countries in the UNFCCC negotiations have pushed for a relaxation of existing IPR regimes in relation to the transfer of climate-related ESTs to developing countries. In their proposal for a technology mechanism to operationalize UNFCCC Art. 4.5, the G77 and China proposed that a technology action plan to be established under their proposal would "ensure that privately owned technologies are available on an affordable basis including through

³⁰ "Evergreening" is a method by which technology producers keep their products effectively patent protected for longer periods of time than would normally be permissible under the law. For example, a company invents a product that it then secures a patent for. Shortly before the original patent expires, the patent holder files a new patent application that changes or extends the original, so that when the original patent expires, the new patent is already in effect. This would then prevent other persons from producing generic versions of the product. ³¹ However, the extent to which these flexibilities can be used for facilitating transfer of ESTs

 ³¹ However, the extent to which these flexibilities can be used for facilitating transfer of ESTs is debatable because of the possibility of narrow or liberal interpretations of these flexibilities.
 ³² TRIPS, Art. 66.2. Unfortunately, however, as in the UNFCCC, developed countries have

³² TRIPS, Art. 66.2. Unfortunately, however, as in the UNFCCC, developed countries have not complied with this treaty obligation and discussions within the WTO's Working Group on Transfer of Technology (WGTT) have been inconclusive. LDCs have generally considered the implementation of TRIPS Art. 66.2 to be virtually non-existent and inadequate in promoting effective technology transfer and it is still unclear where technology transfer has actually taken place pursuant to this treaty obligation.

³³ The UNFCCC COP could also conceivably adopt a decision or a resolution calling on all WTO members to refrain from bring dispute settlement proceedings against each other in cases relating to the use of TRIPS flexibilities with respect to climate change-related technologies.

measures to resolve the barriers posed by intellectual property rights and addressing compulsory licensing of patented technologies."34 The same proposal suggested that the mechanism should be able to support and finance, inter alia, the costs of "compulsory licensing, cost associated with patents, designs, and royalties."35

In the UNFCCC negotiations, developing countries have also called for, inter alia:

- a suitable IPR regime for accessing technologies owned by the private sector;³⁶
- an IPR sharing arrangement for joint development of ESTs;³⁷
- the development of criteria on compulsory licensing for patented ESTs, joint technological or patent pools to disseminate technologies to developing countries at low cost, time-limited patents, the provision of fiscal incentives to technology owners to obtain differential pricing;³⁸
- looking at new approaches regarding IPRs and technology sharing facilitation (such as an approach similar to the WTO TRIPS and Public Health Declaration);³⁹
- Expansion of the public domain for publicly funded technologies and exemptions for climate-friendly technologies.⁴⁰

3.3 Standard-setting

Energy efficiency standards can be regulatory vehicles that can be used to promote energy efficiency and change energy producer and consumer behaviour. However, there are great variations in terms of the methodologies, technical bases, testing modalities and procedures, and enforcement processes in defining and implementing such standards.

In the context of trade competitiveness, such standards are "more likely to adversely affect industrial competitiveness than carbon taxes", according to the World Bank.⁴¹ They may have the effect of being non-tariff trade barriers. The World Bank has modeled the trade effects of energy efficiency standards and concluded that, whether such standards are imposed by importing countries, exporting countries, or both, there are "strong negative effects on competitiveness" – i.e. trade decreases as standards go up.⁴²

http://unfccc.int/meetings/adhoc_working_groups/lca/items/4423.php

³⁴ Antigua and Barbuda on behalf of the Group of 77 and China, Proposal for a Technology Mechanism under the UNFCCC, FCCC/AWGLCA/2008/MISC.5.

³⁶ India, during the technology workshop, at

China, in FCCC/AWGLCA/2008/MISC.5

³⁸ See e.g. China, in FCCC/AWGLCA/2008/MISC.5; Pakistan and Bolivia, in FCCC/AWGLCA/2008/MISC.5/Add.2

Brazil, in FCCC/AWGLCA/2008/MISC.5

⁴⁰ Bolivia, in FCCC/AWGLCA/2008/MISC.5/Add.2

⁴¹ WB Trade and Climate, supra, p. 11.

⁴² Ibid, pp. 27-29, and appendix 4.

In this context, developing countries have generally stressed that the development of such standards must be consistent with, inter alia, the WTO Agreement on Technical Barriers to Trade which requires, for example, that such standards be based on international standards where they exist. ⁴³ Furthermore, they have also stressed that there must be due consideration for the specific national circumstances of developing countries when standards are to be applied. In relation to the UNFCCC and its applicability to climate-relevant standards-setting, the UNFCCC recognizes the need to ensure that such standards-setting does not adversely impact developing countries.⁴⁴

A corollary issue that many developing countries have often raised is that in shaping such international standards, developing country participation must be ensured.⁴⁵ Also, standards must provide for flexibility to allow developing countries to reflect in such standards their own development context. Absent such effective presence and participation by developing countries in international standards-setting, and the provision of appropriate flexibilities in international standards for developing countries, there is deep concern among developing countries that such standards could be used to block their exports.

3.4 Sectoral approaches

Developed countries have, in the UNFCCC negotiations, supported a "sectoral approach" to emissions reduction. Under this approach, UNFCCC Parties, including developing countries, would commit themselves to having GHG emission caps on specific industrial sectors such as iron and steel, automobiles, and cement. Under such caps, emitters would be issued with emission rights in the form of emission allowances that could then be traded under national or regional emission trading systems.

Such an approach has been described by Japan, one of its major proponents, as a way of creating a "level international playing field of competitiveness" with respect to these specific sectors. Such proposals in relation to sectoral approaches by developed countries especially Japan and the EU - "are motivated in part by concerns that their domestic climate regulations will: 1) reduce the competitiveness of their firms and products in domestic markets;

⁴³ See e.g. WTO Agreement on Technical Barriers to Trade, art. 2.4.

⁴⁴ The UNFCCC preamble stresses that "standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries". It also states that "responses to climate change should be coordinated with social and economic development in an integrated manner with a view to avoiding adverse impacts on the latter, taking into full account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty" and further that all countries "need access to resources required to achieve sustainable social and economic development and that, in order for developing countries to progress towards that goal, their energy consumption will need to grow". ⁴⁵ The TBT Agreement recognizes this need implicitly in art. 2.6.

2) reduce the competitiveness of their firms and products in international markets; and/or 3) cause the migration of energy/GHG intensive industries to developing countries "46

This approach has been generally opposed by developing countries in the UNFCCC negotiations. Developing countries generally argue that:

- such an approach is not consistent with how the concept of "sectors" under the UNFCCC,⁴⁷ which is more about domestic economic sectors as opposed to industry sectors:48
- having an industrial sector-based approach, rather than the broad economic sectors identified in the UNFCCC, could open the door to the establishment of new international GHG limitation-focused standards and obligations for such industrial sectors that could effectively put constraints on the ability of developing countries to: (a) export products in these sectors⁴⁹; and (b) develop and expand productivity in the industrial sectors that are being targeted for emissions caps in developed countries' proposals.⁵⁰ This would have a knock-on effect in terms of restricting the ability of

⁴⁶ Third World Network, Sectoral Approaches in Climate Negotiations: Considerations for Developing Countries, TWN Accra Briefing Paper 1, 15 August 2008, p. 2. (hereafter TWN Sectoral). Furthermore, as TWN notes, "[e]ven if sectoral negotiations prove unsuccessful, efforts by developed countries to negotiate them could be used as evidence that subsequent unilateral measures are necessary, justified and do not constitute disguised restrictions on international trade", thereby enabling them to later on claim that such measures, even if inconsistent with WTO rules on non-discrimination, would still be allowed as valid exceptions under Art. XX(b) or (g) of the GATT 1994.

⁴⁷ For example, with respect to technology transfers, UNFCCC Art. 4.1(c) contemplates economic sectors rather specific industrial sectors - i.e. the provision identifies "relevant sectors" as "including the energy, transport, industry, agriculture, forestry and waste management sectors" rather than specific industrial sectors such as iron and steel, chemicals. or cement. Furthermore, a typology of mitigation and adaptation sectors have been used in the context of various activities (such as technology needs assessments, national adaptation action plans, etc.) under the UNFCCC. The Kyoto Protocol identifies emissions from two specific sectors - aviation and marine transport - in relation to their future inclusion under emission limits. Sectors are referred to, in various contexts, in UNFCCC Arts. 3.3 and 4.1(c), and in Arts. 2.1(a), 2.2, 6.1, 10.1(b) and Annex A of the Kyoto Protocol. See e.g. TWN Sectoral, p. 2. ⁴⁸ See e.g. Argentina, in FCCC/AWGLCA/2008/MISC.5

⁴⁹ See e.g. ICTSD Copenhagen, supra, p. 14.

⁵⁰ A TWN analysis suggests that the Japanese or EU conceptualization of the sectoral approach gives rise to concerns that such approach may be used to: "Establish new international standards. Sectoral approaches could justify the creation of new international rules or standards on a sector-by-sector basis for energy/GHG-intensive industries that directly impose new and inappropriate costs on products exported from developing countries; Justify trade barriers by developed countries. Sectoral approaches could justify the imposition by developed countries of new trade barriers on products or technologies from developing countries - for example, by justifying new trade bans, border adjustments or standards that limit trade in energy/GHG-intensive products; Change policies in developing countries. Sectoral approaches could justify efforts by developed countries to alter the traderelated domestic policies of developing countries - for example, by removing barriers to markets access for developed country products, or strengthening intellectual property rights over low-emission technologies or climate-resistant crops "owned" by companies in developed countries." TWN Sectoral, pp. 2-3

developing countries to diversify the productive capacity and base of their economies by shifting towards more domestic industrial production of higher value added manufactured products (for which the development of energy-intensive and highemission industries such as iron and steel, cement, and chemicals is the foundation). This would thereby "tilt the playing field' and to pass on to developing countries the costs incurred by developed countries of implementing their obligations under the Convention and Kyoto Protocol."⁵¹

• The Japanese and EU approaches might lead to a replacement of national emission reduction targets for all developed countries in favour of sectoral targets.

These concerns in relation to developed countries' sectoral approach proposal are clearly captured in the various submissions and proposals from developing countries. They have stressed, for example, that any discussion on sectoral approaches should <u>not</u>:

- replace legally binding absolute emission reduction targets for all Annex I Parties;⁵²
- lead to global standards or benchmarks with respect to covered sectors;⁵³
- lead to emissions targets for developing countries;⁵⁴
- result in trade barriers or punitive trade measures;⁵⁵
- lead to the application of inappropriate standards for developing countries;⁵⁶
- lead to unjustifiable discrimination or disguised restriction to the international trade of non-Annex I Parties.⁵⁷

Instead, for developing countries, the discussion on enhancing the implementation of UNFCCC Art. 4.1(c) in relation to sector-specific actions must be focused on promoting the development, deployment, diffusion and transfer of technology and of enhancing sectoral cooperative actions.⁵⁸

⁵⁴ Indonesia, in FCCC/AWGLCA/2008/MISC.4/Add.1; China, in

⁵¹ Ibid.

⁵² G77 and China, in the sectoral workshop, at

http://unfccc.int/meetings/adhoc_working_groups/lca/items/4491.php

⁵³ China, in FCCC/AWGLCA/2008/MISC.5

FCCC/AWGLCA/2008/MISC.5

⁵⁵ China, in the sectoral workshop, at

http://unfccc.int/meetings/adhoc_working_groups/lca/items/4491.php

⁵⁶ AOSIS, in FCCC/AWGLCA/2008/MISC.5/Add.2; AOSIS and China, in the sectoral workshop, at <u>http://unfccc.int/meetings/adhoc_working_groups/lca/items/4491.php</u>
⁵⁷ Indonesia, in FCCC/AWGLCA/2008/MISC.4/Add.1

⁵⁸ See e.g. China, in FCCC/AWGLCA/2008/MISC.1; G77 and China, and Saudi Arabia, in the sectoral workshop, <u>http://unfccc.int/meetings/adhoc_working_groups/lca/items/4491.php</u>

3.5 Emissions trading and the Clean Development Mechanism

Emissions trading⁵⁹ is perceived in many developed countries to be the optimum marketbased mechanism for GHG emitters at the firm or industry-level to achieve emission reductions at lowest-cost and allows countries to limit national aggregate emissions, in theory, to the level of specified national emissions caps. Emissions trading regimes are "already widespread across OECD countries"⁶⁰ with the European Union foremost in their use.⁶¹

Such trading is linked to the setting of emissions "caps" – i.e. the maximum amount of GHG emissions that can be made by GHG emitters (typically industries, firms, or factories) which in turn are determined by national emissions caps set by individual governments. This system is often called "cap-and-trade" – i.e. placing a limit on the amount of emissions that can be produced and then issuing (either for free or for purchase or auction) permits to emit GHGs.

Through emissions trading, GHG emitters who are unable to limit their emissions to levels below their allowed emission rights can offset their excess emissions by buying surplus emission rights from those GHG emitters whose emissions were below their emissions allowances. This basically means that, rather than investing and spending more on emissions abatement technology to further reduce emissions, GHG excess emitters can instead purchase additional emission rights from the emissions trading market (on the assumption that such additional emission rights would be available for purchase).

Reinaud points out that "the vast majority of allowances under existing ETS [emissions trading systems] are currently distributed free to trade-exposed sectors" (such as cement, iron and steel, aluminium, chemicals), on the basis of the application of both eligibility criteria and distribution formulae.⁶² The definition of both the eligibility criteria to be able to receive emission rights and the formulae for the distribution of such emission rights often depend on

 ⁵⁹ Emissions trading is the purchasing and selling of quantified rights to emit specific amounts of GHGs (typically in terms of tons of carbon dioxide equivalent – CO2eq).
 ⁶⁰ Julia Reinaud, Trade, Competitiveness and Carbon Leakage: Challenges and Opportunities

 ⁶⁰ Julia Reinaud, Trade, Competitiveness and Carbon Leakage: Challenges and Opportunities (Chatham House Energy, Environment and Development Programme Paper 09/01, January 2009), p. 3. (hereafter Reinaud Trade and Competitiveness)
 ⁶¹ See e.g. UNFCCC, Compilation and synthesis of supplementary information incorporated in

⁶¹ See e.g. UNFCCC, Compilation and synthesis of supplementary information incorporated in fourth national communications submitted in accordance with Article 7, paragraph 2, of the Kyoto Protocol, FCCC/SBI/2006/INF.2, 22 November 2007, para. 30, stating that "tradable emissions allowances, used primarily in the EC member states, are currently the premier instrument for reducing CO2 emissions from energy production and use. The EU ETS is the centrepiece of the strategy of the EC to meet its emissions commitment under the Kyoto Protocol. In its first trading period, 2005–2007, the EU ETS covers the CO2 emissions from the EC. The second phase and subsequent five-year trading periods may include additional sectors and non-CO2 GHGs. The EC has proposed including aviation in EU ETS as from 2011. Norway has established an emissions trading system, which has for the most part the same features as the EU scheme. Emissions trading systems are also under consideration in Canada, Japan, New Zealand and Switzerland. (Finland, EU ETS, 5.9 TgCO2, 34.4%; France, EU ETS, 3.2 TgCO2, 2.9%; Netherlands, EU ETS, 1.4 TgCO2, 15.5%; Slovakia, EU ETS, 0.8 TgCO2, 76.2%; United Kingdom, EU ETS, 11.0–29.3 TgCO2, 10.3–23.2%.)"

⁶² Reinaud Trade and Competitiveness, supra, p. 11.

governments' political and policy assessment of, inter alia: the level of the national emissions cap that underlies the ETS (and thus the amount of emission rights that can be allocated and, ultimately, traded under that cap); and the industrial sectors and the emitters therein that would benefit from emission allowances (or that should be kept "competitive" with their noncarbon constrained competitors by effectively subsidizing the emitters' cost of compliance with emission limits through the free allocation of emission rights).

Emissions trading, in short, cannot be divorced from the political and policy pressures and considerations that governments have in the context of effecting emission reductions.⁶³ For example, the effectiveness of the current model in existing ETSs under which emission rights are distributed free to emitters in terms of limiting carbon leakage is "rather uncertain and will depend on the cap and the mode of allocation."⁶⁴ Reinaud suggests that for free allocationbased ETSs to be effective in addressing competitiveness and carbon leakage concerns, they will "require the implementation of a comprehensive policy portfolio, not only to ensure that the wide range of leakage concerns is effectively addressed ... but also to provide a tailored solution that is suited to different sectors ...⁶⁵ Also, the price per unit of emission reductions to be traded, in order to serve as effective triggers for shaping market behaviour, must not be based on speculation but rather on exact measurements of emissions globally.⁶⁶

This suggests, then, that the insistence by developed countries on emissions trading as a main mechanism for achieving emissions reductions might be misplaced. It is not necessarily effective in terms of ensuring or inducing firm-level emission reducing actions unless it is tailored as a part, rather than the main component, of a broader "low carbon" policy mix, backed up by political will. Such policy mix would require domestic industries and GHG emitters to cut emissions, shifts production and consumption patterns to low-carbon sectors and activities, and invests in "greener" economic activities rather than continuing to support GHG-emitting ones.

Finally, emissions trading cannot be divorced from the GHG emission reduction commitments that developed countries have to agree to and comply with under the Kyoto Protocol. Much of the emission allowances that can be traded will come from the Certified Emission Reductions (CERs) that can be generated from projects implemented under the Kyoto Protocol's Clean Development Mechanism (CDM).

⁶³ For example, Cosbey and Tarasofsky cite the political pressures exerted by industry actors in shaping the National Allocation Plans (NAPs) under the EU's ETS. See Aaron Cosbey and Richard Tarasofsky, Climate Change, Competitiveness and Trade: A Chatham House Report (May 2007), pp. 9-10. See also Michelle Chan, Subprime Carbon? Re-thinking the world's largest new derivatives market, Friends of the Earth, March 2009, p. 9 (hereafter Chan) Reinaud Trade and Competitiveness, supra, p. 13. 65 Ibid.

⁶⁶ But even here, effectiveness could still be questioned because for such measurements to be had, developed countries must first comply with their obligation under Art. 4.3 of the UNFCCC to pay for the "agreed full costs" needed by developing countries to prepare their national GHG inventories as part of their national communications under Art. 12.1 of the UNFCCC.

The Clean Development Mechanism (CDM) is one of three flexibility mechanisms under the Kyoto Protocol that participating countries can use to meet their GHG reduction targets.⁶⁷ It is the only Kyoto Protocol mechanism that involves developing countries. Under Art. 12 of the Kyoto Protocol, the CDM is a mechanism under which developing countries assist developed country Parties to the Kyoto Protocol to comply with their quantified emission limitation and reduction commitments under the Kyoto Protocol through project activities in developing countries that generate CERs. These CERs could then be added to the assigned amount of the developed country Party, allowing it to achieve compliance with part of its KP emission reduction commitments. The financial resources and whatever technology transfer to developing countries through CDM projects are, therefore, payments to developing countries for the CERs that will be credited to developed country Parties, and cannot be considered as donor funding of projects in developing countries. Neither can such payments be considered as financing in compliance with UNFCCC Art. 4.3 because: (i) they are not for the implementation of developing countries' UNFCCC Art. 4.1 commitments; and (ii) they are for the assistance provided by developing countries to developed countries to fulfill the latter's Kyoto Protocol commitments.⁶⁸

The use of the CDM (and the other Kyoto Protocol flexibility mechanisms) by developed countries in order to meet their Kyoto Protocol mitigation targets should only be supplementary to their domestic emission reduction actions.^{69 70} Operationally, the CDM also needs to be re-tooled in order to make it more useful for developing countries. For example, access to and geographical distribution of CDM projects has to be made equitable. The modalities for project approval and fund disbursement under the CDM need to be improved, project ownership by developing countries ensured, and consistency with host countries'

⁶⁷ The other mechanisms are Joint Implementation whereby developed countries receive credit for investing in GHG reductions in other developed countries and Emissions Trading. whereby emitters purchase carbon credits as a market commodity ⁶⁸ In fact, in recognition that the CDM is primarily a compensation-based mechanism that

developing countries have set up to assist developed countries, developing countries have agreed that the 2% share of the proceeds of the sale of CERs derived from CDM projects in developing countries would go to the Adaptation Fund. In short, developing country Parties agreed to set up a South-South solidarity fund – the Adaptation Fund – which can be used to support adaptation actions in other developing countries. This Fund was made operational at Bali in December 2007, but still has no money because the CERs allocated to it still have not been monetized due to the lack of guidelines for such monetization.

⁶⁹ Paragraph 1 of Decision 2/CMP.1 stressed that "the use of the mechanisms (Joint Implementation, CDM, Emissions Trading) shall be supplemental to domestic action and that domestic action shall thus constitute a significant element of the effort made by each Party included in Annex I to meet its quantified emission limitation and reduction commitments". In interpreting the above paragraph, then, the mechanisms under the Kyoto Protocol simply 'enhance or complete' developed country Parties' domestic emission reduction activities, instead of constituting the bulk of these actions. The use of the CDM is secondary to the conduct of domestic reductions by developed countries to comply with their Kyoto Protocol commitments. All Kyoto Protocol mechanisms (including JI and Emissions Trading) cannot be the primary sources for emission reductions. Developed countries oppose expressing the concepts of "significant" and "supplemental" in numerical terms.

⁰ See e.g. Argentina, in FCCC/AWGLCA/2008/MISC.5

development objectives enhanced. CDM modalities must ensure that actual and operational transfer of technologies (both hardware and know-how) to developing countries hosting CDM projects take place.

Finally, developed countries must commit to substantially deeper emission reduction targets for the second commitment period under the Kyoto Protocol. Emissions trading, the viability of the CDM as a mechanism for generating tradable CERs, and the effective trading price for such CERs, all depend on the extent to which developed country Parties to the Kyoto Protocol commit to substantial and much deeper quantified emission limitation and reduction targets for the period after 2012.

Deeper mitigation targets by developed country Parties will drive up the value of each CER as there will be more demand for the CERs. Less ambitious mitigation targets – such as those suggested by the EU and other developed countries in the context of the Kyoto Protocol negotiations – will lessen demand for CERs, and thus lower prices. Hence, if Parties wish to see the CDM become more effective and able to generate additional revenue, an essential precondition will be for developed country Parties to the Kyoto Protocol, in the on-going Kyoto Protocol Art. 3.9 negotiations of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) to agree to deep and substantial cuts in emissions for the second commitment period post-2012.

3.6 Carbon-based border adjustment measures

Since the 1990s, energy-intensive industries in developed countries⁷¹ have become subject to carbon taxes and higher energy efficiency standards. Because these industries from developed countries are then required to put in place more costly carbon pollution reduction or mitigation technologies at their plants, or are subject to carbon-based taxes, the production costs for their products arguably become higher and therefore less competitive in trade terms when compared to similar products from developing country producers that are not subject to the same taxes or standards.

But as pointed out by a UNFCCC secretariat report, "[g]enerally, a range of exemptions exists in the coverage of CO2 or energy taxes, especially for energy-intensive industries. Beyond broad exemptions, many countries adjust or exempt companies that are participating in climate change VAs [voluntary actions] for CO2 or energy taxes (e.g. the Netherlands, Norway, the United Kingdom). The Netherlands and Belgium also provide tax deductions and

⁷¹ As of 2004, ten (10) developed countries impose carbon-based taxes as cornerstones of their climate policy. These include Denmark, Finland, Germany, Liechtenstein, the Netherlands, Norway, Slovenia, Sweden, Switzerland, and the United Kingdom. The rates of the taxes are typically EUR 7–13 per tonne of CO2, but can be as high as EUR 42 per tonne of CO2 in some cases. See UNFCCC, Compilation and synthesis of supplementary information incorporated in fourth national communications submitted in accordance with Article 7, paragraph 2, of the Kyoto Protocol, FCCC/SBI/2006/INF.2, 22 November 2007, para. 27.

targeted subsidies for climate-friendly energy investments, across all energy end-use sectors except transport."⁷²

Hence, the potential adverse trade competitiveness impacts – i.e. becoming less competitive vis-à-vis non-carbon constrained competitors – of the developed country's energy-intensive industry subject to the carbon-based tax often gets mitigated due to tax exemptions or the recycling of tax revenues into industry subsidies.⁷³

Nevertheless, although the competitiveness impacts of domestic carbon-based taxation and regulation in developed countries on their energy-intensive industries may in most cases not be significant or are indirect and oftentimes mitigated by exemptions or subsidies, developed countries still seek to address perceived adverse competitiveness impacts arising from asymmetrical carbon-based taxation and regulation through carbon-based border measures.⁷⁴

A recent example relating to a detailed legislative proposal for carbon-based border adjustment measures to address competitiveness and carbon leakage concerns is Sec. 401 of House of Representatives Bill No. 2454 (H.R. No. 2454) entitled the "American Clean Energy and Security Act of 2009" authored by US Representatives Henry Waxman (D-CA) and Edward Markey (D-MA).⁷⁵ This section would insert a new "Part F" to Title VII of the US Clean Air Act, which part would be entitled "Ensuring Real Reductions in Industrial Emissions."⁷⁶ This new Part F has two subparts:

 ⁷² UNFCCC, Synthesis of reports demonstrating progress in accordance with Article 3, paragraph 2, of the Kyoto Protocol, FCCC/SBI/2006/INF.2, 9 May 2006, para. 19.
 ⁷³ See e.g. UNFCCC, Compilation and synthesis of supplementary information incorporated in

 ⁷³ See e.g. UNFCCC, Compilation and synthesis of supplementary information incorporated in fourth national communications submitted in accordance with Article 7, paragraph 2, of the Kyoto Protocol, FCCC/SBI/2006/INF.2, 22 November 2007, para. 28.
 ⁷⁴ For example, in November 2006, then-French Prime Minister Dominique de Villepin

⁷⁴ For example, in November 2006, then-French Prime Minister Dominique de Villepin suggested that countries "do not sign up to a post-2012 international treaty on climate change could potentially face extra tariffs on their industrial exports." This suggestion was opposed by the European Commission, citing potential conflicts with WTO rules. See Businessweek, "Global Warming Wars: EU Takes on France's Carbon Tax Plan", 18 December 2006, at http://www.businessweek.com/globalbiz/content/dec2006/gb20061218_681124.htm?chan=to http://www.businessweek.com/globalbiz/content/dec2006/gb20061218_681124.htm?chan=to http://www.businessweek.com/globalbiz/content/dec2006/gb20061218_681124.htm?chan=to http://www.businessweek.com/globalbiz/content/dec2006/gb20061218_681124.htm?chan=to http://www.businessweek.com/globalbiz/content/dec2006/gb20061218_681124.htm?chan=to http://www.businessweek.com/globalbiz/content/dec2006/gb20061218_681124.htm?chan=to http://www.businessweek.com/global-business. Such suggestions were reiterated by then-French President Jacques Chirac in January 2007 and by current French President Nicolas Sarkozy in November 2007. In early 2008, the European Commission discussed proposals that would impose a de facto carbon tax on imports by requiring companies importing goods into the European Union from countries that do not similarly restrict greenhouse gas emissions to first buy EU emissions permits. See Reuters, "EU considers carbon tariff", 4 January 2008, at <a href="http://www.reuters.c

⁷⁵ This bill was approved by the US House of Representatives on 26 June 2009, and is now awaiting US Senate action and adoption before it becomes US law.

⁷⁶ This, presumably, would make even more explicit the US Environmental Protection Administration's (EPA) power to regulate greenhouse gases under the US Clean Air Act following the US Supreme Court decision in April 2007 (Massachusetts v. EPA) ruling that GHGs are air pollutants under the Clean Air Act. The court instructed the EPA to decide whether GHG emissions endanger public health and/or welfare, or if current science is too uncertain to make a reasonable judgment. In response to the Supreme Court decision, the EPA found in April 2009 that GHG emissions do indeed endanger public health and welfare.

- subpart 1 establishing an Emission Allowance Rebate Program commencing no later than 30 June 2011⁷⁷ for eligible industrial sectors that would allow the US EPA to distribute emission allowances to greenhouse gas-emitting entities in US domestic eligible industrial sectors that are energy-intensive and trade-exposed, or have very high energy or GHG intensity, in order to "rebate the owners and operations [of these entities] for their greenhouse gas emission costs incurred under this title, but not for costs associated with other related or unrelated market dynamics⁷⁸; and
- subpart 2 authorizing the US President if, by 1 January 2018, a multilateral . agreement that meets the negotiating objectives set out in Sec. 766⁷⁹ of the Clean Air Act has not entered into force with respect to the US, to establish an International Reserve Allowance Program no later than 30 June 2018, for imported goods where 15 percent or more of US imports of such goods are produced or manufactured in countries that do not essentially do not have the same level of GHG mitigation actions or commitments as the US⁸⁰. Such a program would require US importers to purchase and submit international reserve allowances as a condition for being able to import into the US foreign-produced goods.⁸¹ However, the International Reserve Allowance Program may not apply to imports into the US before 1 January 2020.⁸²

Imposing an international reserve allowance requirement is essentially a carbon-based traderelated border measure. It would effectively increase the transaction cost of other countries especially non-Annex I UNFCCC Parties - in exporting their products to the US. In consequence, the application of the International Reserve Allowance Program to various goods from developing countries would then reduce the trade competitiveness of exporters of the goods covered thereby.

In short, under the Waxman-Markey bill, to address the carbon leakage and competitiveness concerns of US industry, the US government would:

⁷⁷ Sec. 763(a)(1) and (b)(1) of the Clean Air Act as added by Sec. 401 of HR No. 2454

⁷⁸ Sec. 761(b)(1) of the Clean Air Act as added by Sec. 401 of HR No. 2454

⁷⁹ These negotiating objectives as specified in Sec. 766 of the Clean Air Act as added by Sec. 401 of HR No. 2454 include: (1) reaching an "internationally binding agreement in which all major greenhouse gas-emitting countries contribute equitably to the reduction of global greenhouse gas emissions"; (2A) having in such an agreement provisions that "recognize and address the competitive imbalances that lead to carbon leakage" between parties and nonparties; (2B) not having in such agreement provisions that would prevent the parties from addressing such competitive imbalances; and (3) having in such agreement "agreed remedies for any party to the agreement that fails to meet its greenhouse gas reduction obligations in the agreement." The first negotiating objective clearly implies that the US will seek to have major greenhouse gas-emitting developing countries undertake binding mitigation targets something that is not currently provided for in the UNFCCC.

⁸⁰ These would, essentially therefore, be developing countries considering that under the current UNFCCC, developing countries do not have binding mitigation obligations similar to those that the US and other developed countries are subject to under Art. 4.2(a) and (b).

⁸¹ Sec. 767(b)(1) and Sec. 767(d)(1) in relation to Sec. 768 of the Clean Air Act as added by Sec. 401 of HR No. 2454 ⁸² Sec. 765(c) of the Clean Air Act as added by Sec. 401 of HR 2454

- compensate i.e. subsidize the costs incurred by these industries (in particular the energy-intensive and trade-vulnerable ones) for complying with more stringent US GHG emission targets; and
- (ii) raise trade barriers (in the form of the requirement to purchase and submit international reserve allowances as a condition for importation into in the US) to products from other countries, including developing countries, that would compete with the goods produced by these US industries.⁸³

Should these provisions in the Waxman-Markey HR No. 2454 pass the US Senate and are signed into law by President Obama, the consistency of these provisions in relation to WTO rules and disciplines need to be carefully assessed (in particular with respect to their compliance with WTO rules in relation to non-discrimination and prohibited subsidies).

On the other hand, some developing countries have sought to assuage such competitiveness concerns by imposing voluntary export taxes on their own exports.⁸⁴

However, Reinaud suggests that addressing carbon competitiveness concerns using a system of border adjustment measures (such as the ones envisaged in the European and US suggestions) may not necessarily be effective, especially in light of the "administrative requirements, costs and technical practicality" of border adjustments that serve as the "greatest barriers to their implementation."⁸⁵ Cosbey has also pointed out some of the legal, effectiveness and administrative feasibility aspects that need to be addressed with respect to border adjustment measures.⁸⁶ That is, imposing such measures might not even be effective in terms of meeting any objective they might have of getting other countries to adopt more stringent carbon emission regulations – especially if the trade flows of the countries

⁸³ See e.g. Art. II:1 and 2 of the GATT 1994. For a discussion, see e.g. Cosbey and Tarasofsky, supra, pp. 19-20. See also Aaron Cosbey, Border Carbon Adjustment: Background Paper to the June 2008 Copenhagen International Trade and Climate Change Seminar, August 2008, pp. 3-4, with respect to the legal aspects of a border carbon adjustment. (hereafter Cosbey). See also Matthew Stilwell, New Challenges of Global Governance: Managing International Trade and Climate Change (2008), at http://www.envirosecurity.org/activities/diplomacy/gfsp/theperfectstorm/Stilwell_CCandTrade.pdf, stating that "[t]he WTO permissibility of these measures remains to be seen, and will depend on factors including: a) the existence of prior, goodfaith, across-the-board negotiations; b) tailoring of measures to different situations in different countries; c) the transparency, predictability and fairness of procedures; and d) whether the measures are otherwise arbitrary or unjustifiable in light of WTO rules interpreted in light of relevant international obligations – including those under the Climate Convention or Kyoto Protocol.

⁸⁴ For example, China in early 2008 raised its export taxes on its exports of steel products, which make products subject to such export taxes less globally competitive but also generate domestic revenue for the tax-imposing government. See e.g. S. Shanker, "China hikes steel export tax by 5-15%", The Hindu Business Line, 23 January 2008, at http://www.thehindubusinessline.com/2008/01/03/stories/2008010352200300.htm. See also http://www.thehindubusinessline.com/2008/01/03/stories/2008010352200300.htm. See also http://www.thehindubusinessline.com/2008/01/03/stories/2008010352200300.htm. See also http://www.thehindubusinessline.com/2008/01/03/stories/2008010352200300.htm. See also http://www.thehindubusiness.com/2007/12/28/china-to-raise-steel-product-export-tax-lower-high-purity-copper-export-tax/

⁸⁵ Reinaud Trade and Competitiveness, supra pp. 14-16.

⁸⁶ Cosbey, supra.

concerned with respect to the products covered by the measures are not large or significant to the exporting country.⁸⁷

On the other hand, the World Bank modeled the competitiveness effect of such measures when imposed by importing countries and concluded that these would have adverse effects on the competitiveness of exporting countries – i.e. there would be "marginally significant" decreases in trade.⁸⁸ Applied with respect to trade between importing developed countries and exporting developing countries, this conclusion would therefore imply that carbon taxes imposed by developed countries on imported goods reduces to some extent the export opportunities of developing countries.

The potential of having their exports be discriminated against as a result of such subsidies and border measures in the name of climate change raises deep concerns among developing countries. The ability to access developed country markets for their exported goods remains a major component in many developing countries' development strategies. Hence, carbonbased border adjustment measures are likely to be seen as disguised protectionist measures that would arguably be contrary to UNFCCC Art. 3.5 and various WTO rules. Border barriers to their exports will have adverse implications on the extent to which developing countries will be able to generate trade-derived capital surpluses to invest domestically in building up improved development-oriented physical, human and financial infrastructures.

These concerns of developing countries with respect to the impact of such measures on their exports and on these measures as being disguised protectionism give rise to a serious political consideration in the context of the on-going UNFCCC negotiations. Such measures by developed countries are likely to be seen, inter alia:

- as an attempt to extra-territorially enforce developed countries' carbon reduction emission standards onto developing countries' products and production processes even when the latter do not have the finance nor technology to effectively adopt and comply with such standards;
- as an attempt to penalize developing countries, through their exports, for not undertaking emission reduction commitments or targets;
- as an attempt to prevent developing countries from their achieving development objectives (resulting in a "lock-in" of poverty) in part by limiting export opportunities;
- as an attempt to further tilt an already unequal playing field in terms of both trade and economic relations further against developing countries; and

⁸⁷ This was alluded to by Cosbey, supra, pp. 2-3, 5-6.

⁸⁸ WB Trade and Climate, supra, pp. 27-29, and appendix 4.

 as non-compliance by developed countries with their treaty commitments under both the UNFCCC (Art. 3.5) and the WTO not to engage in arbitrary or unjustifiable discrimination or disguised restrictions on the trade of developing countries.

Such measures could have detrimental effects on the ability of UNFCCC Parties to engage constructively with each other with arriving at an agreed outcome at the conclusion of the process under the Bali Action Plan. Border adjustment measures are likely to be highly politically divisive.⁸⁹

4 Carbon leakage – developing country perspectives on competitiveness

The issue of "carbon leakage" – i.e. a relocation of carbon-intensive industries from countries with stringent climate change-related rules (such as GHG emission restrictions leading to lower emissions) to countries with less stringent rules or without such rules (leading to increased emissions) – has been flagged as a major policy issue that needs to be addressed in order to ensure the environmental integrity of climate change actions.⁹⁰ It is suggested that "uneven carbon constraints (e.g. in Europe) would enhance the competitiveness (i.e. international market share – exports and imports – and profit levels) of non-carbon-constrained producers (e.g. in China). The implied higher carbon costs associated with energy-intensive industries within the constrained region would create incentives for those industries either to source carbon-intensive inputs from the unconstrained region and/or to

http://www.chinadaily.com.cn/bizchina/2009-03/20/content_7598016.htm

⁸⁹ See for example Cosbey's discussion of the negative "vitriolic" reaction of developing countries to the US imposition of a border adjustment measure in the Shrimp-Turtle case, in Cosbey, supra, pp. 6-7. Recent suggestions from US and European officials, such as US Energy Secretary Steven Chu and French President Sarkozy, on the possibility of the US and the EU imposing carbon-based border adjustment measures also met with strong reactions from big developing countries such as China and India. For example, India's Special Envoy on Climate Change, Mr. Shyam Saran, recently stated that doors "should not open ... for protectionism under [the] green label. That is something which would be a very negative development." The lead Chinese climate negotiator, Mr. Su Wei of China's National Development and Reform Commission (NDRC), also recently stated that "[i]f there's going to be a border tax imposed [by developed countries], that would very much have the danger of triggering a trade war ... That's not something that we would be happy to see." In similar vein, the vice-minister of China's NDRC, Mr. Xie Zhenhua, stressed that "I oppose using climate change as an excuse to practice trade protectionism." These quotes are based on the following news reports: The Economic Times, India opposes protectionism under green label, 25 March 2009, at http://economictimes.indiatimes.com/News/India-opposes-protectionismunder-green-label/articleshow/4312219.cms; AFP, India warns against 'green protectionism', 24 March 2009, at

<u>http://www.google.com/hostednews/afp/article/ALeqM5j9SQXvBuulBta_Tfxt9bSgDyltZg;</u> Thanh Nien News, Western climate-change policies risk protectionism: China, India, 7 April 2009, at <u>http://www.thanhniennews.com/worlds/?catid=9&newsid=47729;</u> China Daily, Emission tariff proposal rapped, 20 March 2009, at

⁹⁰ Cosbey and Tarasofsky describe this as "the chain of events whereby greenhouse gasproducing activity simply shifts from a regulated jurisdiction to an unregulated one." See Cosbey and Tarasofsky, supra, p. 4.

relocate."⁹¹ Such a preference for inputs from developing countries, or the relocation of industries from the EU or the US to developing countries like China or India would then have implications on the overall competitiveness of developed countries' industries.

The argument is then made that to prevent carbon leakage, a "global cap-and-trade regime" should be created that is "as inclusive as possible. The more countries – particularly all major economies – participate under the same constraints, the less scope for carbon leakage and competitiveness concerns." ⁹² The problem with this argument is that it assumes that developed and developing countries are equally competitive under all conditions. Such an assumption simply is not true. Developed countries, by and large, continue to be more competitive in global trade in manufactured products relative to their developing country counterparts.

Carbon leakage issues must first be contextualized in terms of which industries in developed countries would be more vulnerable to leakage. As the World Bank has pointed out, "most emissions in industrialized countries result from inherently domestic activities such as transportation, heating, cooling, lighting, and other such activities, where leakage is either difficult or impossible. On the other hand, for energy-intensive industries such as cement, chemicals, and others, international competitiveness is an important concern."⁹³

The key question is whether such concerns over carbon leakage are well-founded.⁹⁴ In modeling done by the World Bank on imports and exports of energy-intensive products, it suggests that there is "some evidence – although not very pronounced – of leakage of carbon- and energy-intensive industries to developing economies that could be attributed to more stringent climate change policies and energy efficiency standards."⁹⁵ But the World Bank also hastens to add that such findings are neither conclusive nor very precise, and points out further that "developing countries continue to be net importers of energy-intensive products" ⁹⁶ although there are some indications that there could be an increased concentration of energy-intensive industries in developing countries as these countries continue to grow.⁹⁷

In a survey of studies that have sought to identify the firm-level relocation effect of environmental regulations – i.e. the pollution haven theory – which could be considered as

⁹¹ Reinaud Trade and Competitiveness, supra, p. 6. This is the "non-Party problem" in relation to competitiveness concerns that Cosbey and Tarasofsky discuss in their report, see Cosbey and Tarasofsky, supra, p. 4.

⁹² Reinaud Trade and Competitiveness, supra, p. 7.

⁹³ WB Trade and Climate, supra p. 30. These energy-intensive industries include pulp and paper, industrial chemicals, iron and steel, nonmetallic mineral products, and nonferrous metals.

⁹⁴ A close analog to the carbon leakage debate is the pollution haven debate that dominated environmental policy discussions in the 1990s.

⁹⁵ WB Trade and Climate, supra, p. 34.

⁹⁶ Ibid, p. 34.

⁹⁷ Ibid, p. 34.

analogous to the issue of carbon leakage, Cosbey and Tarasofsky concluded that "the literature on pollution havens is instructive in demonstrating that competitiveness concerns are an issue in the non-Party context: that the cost of environmental regulations can matter for some firms and sectors, but not usually enough to induce leakage. For most firms and sectors, the impacts are moderate, but for some - dictated by characteristics specific to the sector - impacts can be high enough to warrant concern."98

However, it should be stressed that studies showing leakage effects are not necessarily conclusive. There are methodological difficulties in isolating and establishing the direct causality between climate policies and carbon leakage since there are other factors that do influence firms' relocation and investment decisions (such as availability of land and raw materials, market potential, political stability, etc.). This could mean that the leakage might not actually be due to the stringency of climate/environmental regulations but rather due to other factors such as other regulatory policies or even broader economic, development, environmental or social policies.99

It is important also to note that the industrial sectors that are seen to be vulnerable to carbon leakage issues are limited. As Reinaud points out, concerns and risks relating to carbon leakage "are restricted to cement and clinker kilns, refineries, primary aluminium smelters, integrated steel mills, electric arc furnace ovens, chemicals, etc. Furthermore, their share in some OECD countries' GDP (i.e. the UK and Germany) is small, and costs as a percentage of revenue or value added are modest for commodities whose emissions costs represent more than 4% of the products' value."100

Additionally, by and large, developed countries continue to be the main producers and exporters of products from such energy-intensive industries - they continued to account for a dominant share of exports from these industries over the past 50 years, especially for automotive products and chemicals though less so with respect to iron and steel. 101 Developing country exporters of manufactured products have started gaining major shares in global trade, although such products have tended to be lower-value-added (mostly clothing and textiles and office and telecommunication equipment). Even then, as UNCTAD has pointed out, "between 2004 and 2007, developing countries classified as exporters of

⁹⁸ Cosbey and Tarasofsky, supra, p. 8.

⁹⁹ For example, pollution haven studies have noted that "pollution abatement costs inherent in stringent regulations are not as significant as a host of other determining factors: access to markets (the primary driver in most studies), labour costs, access to resources and other such variables." Cosbey and Tarasofsky, supra, p. 7.

¹⁰⁰ Reinaud Trade and Competitiveness, supra, p. 7. See also Julia Reinaud, Industrial Competitiveness under the EU Emissions Trading Scheme (International Energy Agency, 2005), which found that the competitiveness effects of the European Union's Emissions Trading Scheme (ETS) on the steel, pulp and paper, cement and aluminium industrial sectors, were minimal. ¹⁰¹ WTO, World Trade Report 2008, pp. 17-18.

manufactures suffered losses from changes in their terms of trade equivalent to almost 1 per cent of GDP per year."¹⁰²

In raising the issue of carbon leakage, developed countries are often seen by developing countries as seeking to ensure that they continue to maintain their trade competitive edge with respect to high-value-added and energy-intensive manufactured products. Since these industrial sectors – especially iron and steel, cement, chemicals – form the backbone for industrial diversification and the development of a manufacturing base for higher-value added products in order to generate higher rates of growth and development¹⁰³, developing countries are concerned that such measures could be used to lock them into their current development stage by preventing them from developing and diversifying into industrial and manufacturing economic sectors.

5 Conclusion

As stressed in Art. 4.7 of the UNFCCC, in implementing climate change-related actions, the first and overriding priority of developing countries is economic and social development and poverty eradication. This priority underlines, shapes, and influences developing country perspectives, positions and actions on climate change. Initiatives, proposals, or suggestions that may adversely impact on the ability of developing countries to promote and achieve their development objectives would, hence, be reacted to negatively.

This would include, inter alia, those suggestions or proposals that can be seen as affecting the ability of developing countries to improve their level of economic diversification and industrialization, including through the development of strong and diversified export and manufacturing sectors.

The key point that needs to be stressed here is that for developing countries, a deeply held understanding, which itself is founded on the UNFCCC, is that achieving sustainable development – i.e. the achievement of economic levels sufficient to provide a decent and dignified quality of life for one's people with sufficient economic opportunities and choices within an environment that provides sufficient natural resources to support both the present and future population and the economy – is the best contribution that they can provide in addressing the global challenge of climate change.

¹⁰² UNCTAD, Trade and Development Report 2008, p. 29. Generally, only developing countries that are exporters of oil and mining products made significant gains in their terms of trade due to the commodity price boom that occurred in recent years. However, as the UNDESA points out, such gains were reversed as oil and primary commodity prices fell in the second half of 2008, especially affecting the oil and commodity exporters of North and sub-Saharan Africa, the CIS, West Asia, and least-developed countries. See UNDESA, World Economic and Social Prospects 2009, p. 36.

¹⁰³ In its 2009 report on industrial development UNIDO has pointed out that "both diversity and sophistication in industry are drivers of faster growth." See e.g. UNIDO, Industrial Development Report 2009, p. 17.

To unblock the negotiations and send positive negotiating signals, developed countries should refrain from adopting border adjustment measures, promoting sectoral approaches, pushing for trade liberalization of climate-friendly products of export interest to developed countries, and adopting standards that may act as barriers to the exports of developing countries. The BAP process can best address competitiveness concerns by focusing on:

- enhancing the implementation of existing UNFCCC commitments by all Parties, especially in ensuring achievement of its Art. 2 UNFCCC objective, including sustainable development;
- ensuring a strong and operational financial and technology transfer mechanisms to support developing countries in achieving development in ways that are adapted to, and respond to, the carbon space constraints imposed by the need to stabilize GHG emissions in ways consistent with Art. 2 UNFCCC. This would entail positive consideration of the August 2008 proposals put forward by the G77 and China on financing¹⁰⁴ and technology¹⁰⁵ mechanisms in the context of the BAP process under the AWG-LCA, as further detailed and refined by subsequent proposals and submissions from developing countries during the negotiations

In the ultimate analysis, issues of trade competitiveness and climate change are about how the sharing of the shrinking global carbon budget gets translated into global economic policy responses for sustainable development. These issues are therefore a reflection of a broader global policy debate over the role, position, and influence in global economic, political and environmental governance of developing vis-à-vis developed countries. Hence, these cannot be divorced from developing countries' underlying sustainable development challenges and priorities that need to be urgently addressed by the global community.

 ¹⁰⁴ See Philippines on behalf of the G77 and China, in FCCC/AWGLCA/2008/MISC.2/Add.1
 ¹⁰⁵ See Antigua and Barbuda on behalf of the G77 and China, in FCCC/AAWGLCA/2008/MISC.5.