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# International Trade Policies and Climate Change Governance



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# Preface

This Monograph draws urgent attention to the broad issues of devising: (a) pragmatic international trade policies that integrate various imperatives of climate change (CC) mitigation and adaptation, and, (b) CC governance (CCG) policies that draw upon international trade regimes, to the mutual reinforcement of both trade and climate policies. The relative roles of the World Trade Organization (WTO) and the UN Framework Convention on Climate Change (UNFCCC) in this context are examined and suggestions offered for short-term and long-term reforms of policies governed by either of these two organizations. A brief review of the existing environmental provisions in the WTO charter (none exist in the climate change dimension itself, however), and major case analysis of the WTO jurisprudence is provided in order to assess the potential for the current provisions in CCG.

International trade remains a major instrument of policy for mitigation of greenhouse gases and adaptation to CC. The main approaches toward improved governance of CC in relation to international trade policies under various provisions in the existing agreements are critically reviewed here. Perspectives for new policy formulations and reforms in international agreements are offered. These include the roles of revised provisions in the WTO charter as well as in the UNFCCC. Guidelines for a post-Kyoto Framework are also offered, considering various carbon leakage problems. Potential roles of border carbon taxes and consumption-based policies are assessed. Institutional framework for devising and implementing trade and CC governance policies is suggested.

The tardiness of the WTO trade negotiations under the Doha Round launched about a decade ago, and stalling of any significant progress at the Ministerial Meetings since December 2008 is suggestive of the urgent need to devise efficient strategies to global CCG that avoid unreasonably restrictive trade policies and practices. As explained in this Monograph, even a ‘successful’ end of the Doha Round is expected to fall far short of the imperatives of a sensible CCG regime. This is mainly because some of the major issues such as trade and CC adaptation are not included in the ambit of deliberations. This paradigm is partly attributable to the fact that some of the emerging CC issues have not been noted in 2001 when

the Doha Ministerial Declaration setting forth the Doha Round of Negotiations has been launched.

The discussion and analysis in this Monograph ends up with proposed policy and institutional mechanisms that seek to balance the objectives of governance of global CC and international trade. The underlying spirit recognizes that free trade is not an end in itself, nor is environmental protection that ignores other dimensions of sustainable development—such as poverty reduction and economic development.

Princeton, NJ, USA

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# Chapter 1

## Introduction

### 1.1 Background

Climate change (CC) is here to stay, and its effective governance requires sufficient attention to both mitigation and adaptation aspects on a continuing basis. Environmental factors affect and are affected by CC. The latter refers to the phenomena of significant variations—persistent for significant periods (decades or longer)—in the mean and variability of factors such as temperature, precipitation, and winds. It is not enough to recognize the potential rise in average global temperature over the years; increases in its variability resulting in weather extremities and related disasters should be of major concern. This points to the urgent role of CC adaptation (CCA). The need to enhance the positive role of international trade to gear up to the emerging requirements is as important as regulating trade to protect the environment.

What is climate change governance (CCG)? This is a set of mechanisms (including institutions, policies and programs) that influence the processes affecting and affected by CC. The processes contributing to the continued additions to the atmospheric stocks of greenhouse gases (GHGs) deserve urgent attention for the purposes of mitigation; the adverse impacts of CC deserve similar attention in order to expeditiously address CCA. In select situations there is a coincidence of both the streams as in, for example, accelerated provision of solar energy resources that reduce emissions of GHGs and offer energy resources in energy poor areas.

Although the international trade negotiations under the World Trade Organization (WTO) are almost stalled, CC and its adverse impacts do not. Reduction of GHGs that contribute to CC remains an important requirement in order that acceleration does not occur in CC and in its adverse impacts. Simultaneously, measures geared toward CCA deserve high priority, since reversal of the CC phenomenon is nearly impossible. National and global economic policies,

in general, and international trade policies, in particular, have important roles in addressing some of these issues.

Transmission of emissions of GHGs through the conduit of international trade remain significant, with very little responsibility or accountability for this flow at this time at the international level. International trade affects the environment (as well as CC), both positively and negatively, depending on the specific trade activities and direct/indirect contributions. Availing trade as a mechanism to contain emissions of GHGs and to enhance the urgently needed adaptation to the adverse impacts of CC remains an important avenue for further exploration, while realizing that trade liberalization remains a relevant objective for economic growth. It is useful to note that CC is likely to alter the comparative advantage of some countries in a few sectors, and affect the patterns of international trade. For example, frequent or expanded drought (or famine) problems in some regions have serious implications for imports-exports in the affected regions relative to the rest of the world. Trade policies need to be sensitive to these issues so that bad situation does not get worse in the affected regions, and that meaningful relief becomes available.

This Monograph takes stock of the main approaches toward improved governance of CC in relation to the existing and proposed international trade policies under the WTO, the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol (KP) on the emissions of GHGs. A perspective for revised provisions in the existing agreements and need for new agreements in a multilateral context is offered. These proposals are relevant in the context of the KP (which is due to expire in 2012), and in broader contexts for mutual supportiveness of trade and environment. A series of short-term and long-term institutional arrangements, policy measures and programs are suggested toward the end of this Monograph.

## 1.2 The Issues

Currently, the commitments and activities of various countries toward the mitigation and adaptation aspects of CC are far from what would constitute a desirable scenario: not all countries have declared commitments toward reduction of GHGs, and those that have such declared targets (largely under the KP) are able to get away with higher total emission levels. This is because some of the emissions are ‘outsourced’, either via relocated industries or through consumption activities that do not account for the purpose of meeting target emission reductions that are merely focused on domestic production-based activities. The scale of such omissions leads to substantial carbon leakage. The phenomenon of covered countries (i.e. those under commitments to achieve specified targets of reductions of GHGs) siphoning off emissions to others such that the emissions targets are accounted as having been met needs to be addressed. The main vehicle for these sustained trends of outsourcing emissions is the role of international trade. Does it mean that

international trade is the main culprit for all the expanding emissions around the regions of the world? Not entirely valid, since trade has also been contributing toward adoption of climate-friendly technologies and promoting innovations, besides enhancing economic growth and the contribution toward enhanced capacity to address CCG issues. We need to examine the issues in a balanced and comprehensive manner, so that the design and implementation of international trade policies can mitigate some of the GHGs emissions problems, and also enable faster adaptation to CC. This need not be an impossible task if only a pragmatic and objective approach is devised and adopted by various countries.

Some of the key issues of interest in trade and CCG-related environmental policies examined here are: are the existing provisions of international policy—legal and institutional—sufficient to address the requirements of effective governance in so far as the role of international trade is concerned? Have the market-based mechanisms on emissions trading led to reduction in the emissions of GHGs, and has the KP been effective? What gaps exist and how can these be addressed? As the KP is due to expire in 2012 what new mechanisms and policies are needed in light of recent knowledge and experiences? What role can the WTO and the UNFCCC play in this direction in their stipulations of trade environmental policies? What innovative methods of improved governance of CC are relevant in this context?

What provisions exist under the WTO charter? How has been the WTO jurisprudence in balancing trade and environmental objectives, trade and climate change objectives, and trade and climate change governance?

What is emerging from the WTO's Doha's Round Trade Negotiations? Whither a new agreement on Environmental Goods and Services (EGS) and other related aspects? If the WTO charter cannot gear up to the emerging challenges, what other pragmatic institutional arrangements and policy reforms are feasible in the short-run and in the longer horizon? Is the UNFCCC a better forum to address relevant issues? Can the two major international bodies complement each other in promoting trade liberalization and CCG?

What new initiatives are relevant at the national and international levels to devise trade policies that mainstream CCG?

What other supplementary measures are needed in the short-term and long-term to offer mutual supportiveness of trade policies and CCG?

This Monographs seeks to examine some of these issues.

### **1.3 International Trade and the Global Environment: An Integration**

Incorporating environmental considerations into trade policies and recognizing the role of trade in dealing with environmental polices are mere prerequisites of a rational and optimal economic and environmental integration for the benefit of

both economic and environmental objectives in the short-run as well long-run, i.e. ensuring sustainable trade and environment. We need to take stock of arguments in support of and against trade liberalization in so far as the environmental and CC implications (direct and indirect) are concerned. The roles of economic and environmental externalities in this context are important; these aspects are summarized below.

The global environmental problems arise out of institutional failures (including market failures) leading to environmental externalities of global resource use at the production, consumption, as well as other levels. The problems of market failures/inefficiencies, and of missing markets for some environmental resources, lay the foundation for the existence of a wide range of externalities- environmental as well as economic. In this context, it is useful to distinguish three types of environmental externalities that deserve attention in the context of international trade. These are the following:

- (a) local externalities: these have their origin in domestic markets and local production units;
- (b) transboundary externalities: these have their origin in one domestic market but propagate their impacts to trading or neighboring regions because of the trading mechanisms; and,
- (c) global externalities: these belong in the of environmental problems of the global commons, to the extent that these are attributable to international trade mechanisms.

Local externalities are usually addressed (not in all situations, however) at the production unit levels so as to ensure that pollution emitters pay for the costs of mitigating the damages to others (neighbors, region or the society). Measures to govern the local externalities include government regulations, taxes, market permits and pollution quotas. Transboundary externalities also allow adoption of some of the analogous approaches since the parties to environmental damage are generally identified, and these may be subject to appropriate liability and/or other laws- to the extent these laws are applicable and comprehensive. There is an urgent need to devise mechanisms that address the governance of the global commons and mitigation of the effects of global environmental externalities contributed by trade activities.

As the widely recognized Stern Review (Stern 2007) argued, CC is the single most important market failure the world needs to confront. Perhaps more importantly, CC is the net result of various institutional failures, including but not limited to market failures. *The fact that international climate agreements and trade agreements are awfully inadequate in their design of effective policies and compliance mechanisms is indicative of larger problems of international policy coordination, beyond the design of market mechanisms.* Clearly, international trade can be contributor as well as mitigator of these problems, depending on the nature of policy content and impacts on the system. The challenge is to avail

the institutional arrangements to reduce the former component and enhance the latter. We shall address these issues in later sections.

Let us next summarize some of the economic foundations linking trade and CC.

*Economic growth (partly enhanced by trade liberalization) is a necessary but not sufficient condition for ensuring environmental sustainability (as well as sustainable development).*

Hence the need arises for coordinated national and international policies governing trade and environment for their mutual supportiveness. This has become even more important in view of greater realization that there are serious environmental problems that are changing for worse during the past few decades: record levels of emissions of GHGs and worsening CC phenomena.

The need for a global concerted action to devise pragmatic trade policies, and an assessment of the underlying mechanisms contributing to the current problems has been summarized (Nordstrom and Vaughan 1999, p. 57):

...environmental degradation is perhaps not so much about trade, but rather about misplaced economic incentives that allow producers and consumers to pollute without bearing the full social costs of their actions... the globalization of the world economy may have reduced the regulatory autonomy of countries, thereby making it more difficult to upgrade environmental standards unless as part of a concerted effort among nations.

Do the gains from trade outweigh the costs of environmental damage? In an empirical study, Frankel and Rose (2005) found, based on cross-country analysis, that observed beneficial effects of trade liberalization include shifts to cleaner techniques and composition of economic activity, economic gains from trade, ratcheting up of standards and innovation. The effect of trade on the environmental pollution for specific given levels of income per capita has been examined, among others, by Frankel and Rose (2005). They observed that trade did help reduce the air pollution measures as far as sulfur dioxide, nitrogen dioxide, and particulate matter. They did not find significant evidence to suggest that trade has detrimental effect on the environmental pollution, in general, and rejected claim of international race to the bottom driven by trade phenomena. However, their study does not take into account the impacts of global environmental externalities such as carbon emissions or biodiversity losses that are largely irreversible, and thus the conclusion may not be of much use for the design of policy.

Trade affects economic factor markets and environmental factors via four aspects of production methods: Composition, Scale, Technique, and Interaction among these three factors. The resultant effects vary across countries. Environmental effects of trade are often viewed and examined in terms of these interacting elements.

At the end of a detailed analytical and empirical survey on trade-economy-environment relationships, Copeland and Taylor (2004) argued that there is little reason (p. 67) “for trade policy to be used to achieve environmental ends either at home or in foreign countries”. The issue here is not one of meeting emission targets or other environmental goals but is that of integrating or mainstreaming so that needless adverse effects or other externalities are brought to account. Ignoring

these dimensions in various trade policies can lead to avoidable excessive costs/damages and eventually some segments of trade becomes unsustainable.

Regarding economic methods and their applications, the Stern Review (Stern 2007) catalyzed substantial investigations in environmental and climate change economics, and foundations of green economic policies have been laid out in Rao (2010). However, more understanding is needed for the design of policy formulations and their effective implementation—without needlessly foregoing benefits in any interrelated areas. For example, the effects of CC on human welfare—both directly and via changes in ecosystems and various components of natural capital—needs further understanding (Heal 2008). In the policy arena, OECD (see Ruffing 2010) has been at the forefronts of economic and environmental policy analyses. However, it is unrealistic to assume that some of suggested mechanisms can be adopted in many of the developing countries that do not have enough statistical and reporting systems to enable various assessments relevant for policy; thus, one-size-fits-all prescriptions are of little help in the real world.

Regarding the role of international exports in enhancing carbon emissions, a number of major studies (see Peters et al. 2011, and a few others cited there) provide substantial evidence of the impact of international trade in enhanced carbon emissions to a magnitude that more than offsets any reductions in production-based emissions in some of the industrial countries. There is, however, rather limited literature on major country estimates of embedded carbon (i.e. carbon emissions emitted at all stages in a product life cycle) in international trade.

As this section heading clarifies, trade is international but the environment and climate/CC is global. In recent years, with enhanced globalization policies, international trade grew almost ten fold in manufactured products and about three fold in agricultural products during the period 1970–2006 (WTO 2008). Given the expanded scale of operations, the corresponding increases in production-based and trade-based emissions of GHGs are also noteworthy. According to one estimate (Bruckner et al. 2010), the CO<sub>2</sub> emissions embedded in internationally traded goods have increased: these accounted for 27% of total energy-related CO<sub>2</sub> emissions in 2005, and the corresponding estimate for 1995 stood at 22%. Thus there is an urgent need to reassess the role of liberalized international trade in affecting CC and to devise relevant and effective reforms of institutions and their policies.

A few case studies (for example, Yunfeng and Laike 2010) offer empirical evidence for China's foreign trade that the scale and composition effects more than double the offsetting effects of technology improvement effects for China during 1997–2007 in so far as the carbon emissions are concerned. The role of exports has been such that the embedded carbon (that is carbon emitted at all stages of goods' manufacturing process, trade, and its final disposal) stood at double that of imports during this time period. The emerging major issue of carbon leakage (the process of emissions of GHGs diverted or relocated to sectors and countries that do not have to account for any limits on such emissions) is clearly verified here where much of the rest of world seems to have 'outsourced' its pollution emissions via

international trade, and hence production, located in China. Somewhat similar phenomenon has also been observed by other authors regarding embedded carbon in trade with Brazilian exports in an early study on the issue (Machado and Schaeffer 2001). On the major importers side the converse can also be seen. For the US, during 1997–2004, it has been estimated that the overall embedded carbon in US imports has grown from the estimated range 9–14% in 1997 to the estimated range 13–30% in 2004 (Weber and Mathews 2007).

Carbon emissions embedded in international trade may have significant impact on participation in and effectiveness of climate policy regimes such as the KP (Peters and Hertwich 2008b). About a quarter of carbon emissions arise from production of internationally traded goods and services (Peters and Hertwich 2008c). Using a comprehensive database for 113 countries and 57 economic sectors, Peters et al. (2011) found that during the period 1990–2008, the carbon emissions from the production of internationally traded goods and services have increased from 20% of total global emissions to 26% of the corresponding totals (rising from 4.3 Gt CO<sub>2</sub> to 7.8 Gt CO<sub>2</sub>). Accordingly, it has been suggested that international trade remains an untapped mechanisms for effecting reduction of carbon emissions. There is, however, need for further work on assessing embedded carbon in various goods and services in the international trade flows.

## 1.4 Role of International Trade in Climate Change

The world has moved beyond focusing merely on the environment for its own sake. Issues of the CC problems surface both in their current adverse effects and also in terms of sustained long term problems with potential aggravations. It is argued here that trade and environment (as well CC protection) can and must be mutually supportive, and that the imperatives of CC need this feature for the design of policies and their implementation. We need to exploit the synergies as a priority, while addressing potential conflicts.

In general, potential benefits of properly designed trade policies include win–win options that promote: (a) trade expansion, (b) environment and CCG, and, (c) economic development (especially creation of gainful employment). When some of the major economies are facing economic crises, (triple) winnable scenarios offer best opportunities to accelerate policy reforms (globally and domestically). However, none of the potential benefits accrue automatically or universally for all countries. Countries and multilateral organizations need to make strategic efforts to meet economic and environmental objectives, considering complex dynamics of CC. Countries have diverse socio-economic and environmental features, and cannot take full advantage of the potential benefits. These have implications for the need for a coordinated yet differentiated (with reference to variations in the levels of development of countries) approach to the design and implementation of international trade policies geared toward improved CCG.

If trade liberalization enhances income levels of participating countries, this could in turn enhance the quality of the environment, or the economy's potential to do so. However, during the expansion phase added environmental damages do occur. The net effect of the two needs careful scrutiny. Trade and CC continue to have a rapid interaction of processes and policies (Brewer 2010).

Very little has been stated so far in literature in dealing with CCA issues and the role of trade policies. The most significant role of international trade in relation to adaptation issues remains largely unavailed (Rao 2012). This area of application premises greater role than in the mitigation of GHGs emissions, especially after the December 2010 Cancun Agreement of the UNFCCC Conference of Parties that makes significant room for technology development and transfer, in addition to providing resources and framework for CCA. The follow up of this Agreement is making some progress currently.

The next chapter examines various important provisions of the environment in relation to international trade policies under the WTO charter.



# Chapter 2

## The World Trade Organization and Climate Change

### 2.1 The WTO Charter

The interface of trade and environment in the global arena in a multilateral setting is characterized by both trade regimes and environmental regimes, under several international agreements devised over the past few decades. International trade policies are largely governed by the WTO. The global environmental policies are governed by various Multilateral Environmental Agreements (MEAs), especially by the UN Framework Convention on Climate Change (UNFCCC). There is some compatibility between the two regimes in their provisions of policies. Lack of compatibility of trade provisions (specific trade obligations, STOs) specified under MEAs with the trade policies under the WTO framework is often complicated by the fact that signatories of MEAs vary substantially from one agreement to another within the large set of MEAs, and also differ from the list of 153-member countries of the WTO. Since the WTO regime has a predominant role in devising various international trade policies and has the most well-equipped dispute settlement mechanism relative to any other trade or environmental regime, and since much of the world trade tends to follow the WTO trade stipulations, it is important to examine relevant aspects of trade and environment/CC interface under the WTO charter.

In the Preamble to the 1994 Marrakesh Agreement Establishing the WTO, reference was made to the importance of working towards sustainable development. It states that the WTO Members recognize:

...that their relations in the field of trade and economic endeavor should be conducted with a view to raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.

The WTO charter allows for some environmental considerations (rather related ‘exceptions’ to the general non-discriminatory) in trade policies, and these are provided among others, mainly under the antiquated General Agreement on Tariffs and Trade (GATT), General Agreement on Trade in Services (GATS), Subsidies and Countervailing Measures (SCM), and Agreement on Technical Barriers to Trade (TBT). Box 2.1 summarizes some of the important provisions.

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### **Box 2.1: Summary of the WTO Environmental Provisions**

The main provisions in the WTO agreements dealing with environmental issues:

GATT Article XX: policies affecting trade in goods for protecting human, animal or plant life or health are exempt from normal GATT disciplines under certain conditions (see later in this section for details).

TBT (relating to product and industrial standards; this mentions the word ‘environment’!), and SPM (relating to animal and plant health and hygiene): recognition of some of the environmental objectives.

Agriculture: environmental programs exempt from required cuts in subsidies

SCM: allows one-time subsidies, up to 20 percent of firms’ costs for adapting to new environmental laws (*this provision lapsed in 2000*).

Intellectual property: governments can refuse to issue patents that threaten human, animal or plant life or health, or risk serious damage to the environment (TRIPS Article 27).

GATS Article XIV: policies affecting trade in service for protecting human, animal or plant life or health are exempt from normal GATS disciplines under conditions similar to those under GATT Article XX.

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The criterion of non-discrimination is the main principle on which the rules of the multilateral trading system are founded. The GATT 1994 provides for a few ‘exceptions’ with a bearing on environmental aspects of trade, but the chapeau of this Article mandates that the non-discrimination principles be adhered to even in these cases that allow for ‘exceptions’.

#### GATT 1994 Exceptions

The GATT 1947 articles of formation did not include the word ‘environment’, yet the GATT jurisprudence remains relevant in the current WTO adjudication process. Most of the environmental exceptions have been attempted over the years seeking cover under GATT exceptions via Article XX. However, most of the disputed cases that supposedly involved environmental protection lost their standing because of the chapeau of the Article

that ensures non-discrimination among GATT-participating countries and avoidance of disguised trade restrictions.

GATT Article XX states:

Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:

- (b) necessary to protect human, animal or plant life or health;...
- (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.

The chapeau of Article XX was designed to ensure that the GATT-inconsistent measures do not (a) result in arbitrary or unjustifiable discrimination, and/or, (b) constitute disguised restrictions on international trade. Most of the trade-environment disputes during the past half-a-century or more have been centered on interpretations in the application of this Article, and most of the cases failed in utilizing these exceptions under the GATT jurisprudence. Article XX still has no provision under GATT 1994 for the term ‘environment’ for its protection, and it refers to ‘exhaustible resources’ rather than nonrenewable resources. The latter was not in common use at the time of the GATT 1947, but it is useful to revise the terminology so that we do not only concern ourselves with ‘exhaustible resources’ but also pay adequate attention to non-renewable resources in the interests of the environmental, ecological and ecosystem services.

*The restrictive scope of the GATT Article XX is a singular limitation for the protection of the global commons via any trade-related measures. Legitimacy of what is produced and traded rather than how it is produced makes it impossible to take into account relevant environmental measures and to apply Article XX for that purpose.*

Three major tests are traditionally used in the application of Article XX exceptions, thus constituting the GATT 1947–jurisprudence within the WTO framework. The three-step test elements are the following:

(a) Application of ‘necessary’ test

Measures required being least trade restrictive (“least GATT-inconsistent”, according to some of the dispute resolution panels of the GATT) among the reasonably available alternatives. The potential candidate alternative measures with respect to which the least GATT-inconsistency is to be examined remains a moot issue in most scenarios. In the absence of transparent and precise guidelines on this test, any given proposal can be disqualified as not being ‘least GATT-inconsistent’.

A more positive specification of the test would seek GATT-consistency in relation to the objectives of the WTO Agreement and its imperatives on application of principles of sustainable development.

(b) GATT Article XX (b): Application of ‘proportionality’ test

A relationship between total costs of intervention measures and their benefits is suggested as a prudent measure to test the relevance of any environmental measure as an environmental exception. However, there are hardly any quantifiable scientific criteria in potential application (in a replicable or calibrated manner) of this qualitative prescription. There has been precious little guidance from GATT panels in assessing appropriate costs and benefits of alternative measures.

(c) Application of ‘balancing’ test

Based on a comparison of costs and benefits, ‘primarily aimed at’ factor of the GATT Article XX (g). This is also a largely subjective perception rather than an empirically testable hypothesis.

Article XX (g) allows WTO members to take action to conserve exhaustible natural resources. Based on a Tuna-Dolphin dispute between Mexico and the US, and later between the EU and the US, it was clarified that the Article does have ‘*extra territorial*’ effect but not ‘*extra jurisdictional*’ effect. The Tuna-Dolphin II Panel of the GATT endorsed national measures designed to protect extra territorial resources. These GATT jurisprudence measures and tests (a), (b), and (c) stated above have been largely redesigned under the WTO jurisprudence, as reflected in the AB Report on Shrimp-Turtle case (discussed in [Sect. 2.3](#)).

## 2.2 Environmental Trade Measures and the WTO

Environmental trade measure (ETM) is a restriction on international trade with the proclaimed purpose of promoting an environmental objective selected by the restriction imposing entity. ETMs can be availed in several forms: specifying standards, imposition of taxes and trade restrictions, trade sanctions, product subsidies and trade conditionality, and a few related elements. Environmental objectives may be of local, regional or global significance. Justifications for invoking these objectives might arise from one or more of the provisions of the WTO agreements. The ETMs may be product based, process based, or both. The provisions under the WTO charter do not usually allow process-based treatment of trade rules devised by member countries, although a few exceptions are allowed. These aspects are examined later in this chapter.

Are the ETMs likely to be suitable for attaining global environmental objectives? *Some of the prerequisites for utilizing ETMs in the governance of global trade and environment include (Rao 2000): the existence of a strong positive*

*correlation of environmental benefits with ETMs, and the benefits of these measures outweigh the total costs (including transaction costs, direct and indirect costs) of deploying the same.*

Trade-related environmental measures or ETMs constituted a major segment of the international trade disputes among parties to the GATT. When international trade policies are required to recognize internalization of environmental costs and multilaterally agreed principles of process and production methods (PPMs), environmental and trade objectives tend to bear greater coherence. The roles of PPMs remains key to several environmentally beneficial trade measures and deserve more attention; more details follow later in various sections of this Monograph.

GATT Article III mandates national treatment of ‘like products’:

Article III.4 of the GATT 1994 reads, *inter alia*:

The products of the territory of any Member imported into the territory of any other Member shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use.

The requirement that all like products be treated equally limits the flexibility of a country to differentiate on the basis of environmental impact of products (during their life-cycle or different stages of production and usage), unless the definition of ‘like product’ includes specifications distinguishing these in terms of their environmental characteristics. If the provision of the Article allows for comparison of ‘like products’ in terms of their environmental effects, we enter into the arena of differentiation on the basis of PPMs as well. Such a distinction could possibly tempt some of the countries to utilize the provision to introduce disguised non-tariff barriers in the name of the environmental features underlying the products. It is likely that some cases could arise, but this problem is minimized when the basis of restriction is based on objective, scientific, and transparent guidelines. These have to be approved by the WTO. *A meaningful provision of PPMs, with a slight modification of Article XX and/or Article XI should largely serve the purpose of integrating environmental considerations into trade issues.*

The notions of ‘likeness’ and ‘less favorable treatment’ merit careful scrutiny when seeking to invoke taxation or other border adjustment methods in relation to embedded carbon at various stages of product production and final delivery through international trade channels. The GATT 1994 regulated border adjustment measures: Article III allows a member to impose a tax (at III.2) or regulation (at III.4) on imported ‘like products’ that are similarly treated in the domestic context. Whether or not products are ‘like products’ depends on how they ‘compete’ in the applicable market, and invoke the following features for comparison: their end use, product substitutability at the consumption level, physical characteristics, and applicable tariffs for each of the specific products under comparison. A key determinant of likeness of products is seen in terms of PPMs, and these may be product-related or non-product-related. The GATT Article II.2 (a) suggests that border taxes can be levied invoking non-product-related PPMs when it allows

“in respect of an article from which the imported product has been manufactured or produced in whole or in part”. This could possibly pave way for distinguishing products in relations their embedded GHGs. This may not be the final word on the legality, however. The issues tend to be fairly complex and depend largely on the specifics of the product in question as well the intentions of any distinction in tariffs on those products.

Some authors suggested that the Article XX of the GATT can be reformulated by the WTO members to explicitly authorize trade-restrictive environmental measures in tune with the MEAs such as the Basel Convention on the Control of Transboundary Movement of Hazardous Substances, Convention on International Trade in Endangered Species (CITES) or others. An indiscriminate application of the non-discrimination principle of the GATT tends to work significantly against the provisions and objectives of some of the MEAs such as CITES. Based on regional or sub-regional ecological characteristics, some of the endangered species may have to be listed in the trade-ban category or other classifications (for example, chinchillas from the US are allowed for trade but not from Peru). This is obviously incompatible with the non-discrimination clause of the GATT.

‘GATT-proofing’ of ETMs (including environmental labeling) authorized by MEAs, has been suggested by some authors as a measure to avoid potential disputes. However, it is important to invoke the relevant integrated application of the articles of the WTO, including its preamble. *The preamble should serve as a lead principle of guidance for interpreting all the articles and Agreements under the WTO charter. This will pave the way for trade-environment conflict resolution since it already provides for the application of the concept of sustainable development.*

## 2.3 The WTO Jurisprudence

Several elements of the WTO charter can constrain the use of trade measures for the effective governance of climate change. Despite considerable jurisprudence based on case law from the WTO disputes several unknowns remain whenever a conflicting trade and climate change measure is brought forth by member countries. The important ones are noteworthy here.

The WTO case law remains as important as the WTO articles of agreement. For example, in the *US—Gasoline* case, the Appellate Body stated as follows (WTO Appellate Body Report, DSR 1996, p. 28): “It is of some importance that the Appellate Body point out what this does *not* mean. It does not mean, or imply, that the ability of any WTO Member to take measures to control air pollution or, more generally, to protect the environment, is at issue. That would be to ignore the fact that Article XX of the *General Agreement* contains provisions designed to permit important state interests—including the protection of human health, as well as the conservation of exhaustible natural resources—to find expression....”

The significance of environmental protection was thus recognized by the WTO members to such an extent as to warrant the above statement in the first paragraph of the Preamble. This background to the WTO charter was also emphasized by the Dispute Settlement Body (DSB) in the Shrimp-Turtle case, suggesting that the preambular language casts its effects on the interpretation of the agreements annexed to the WTO agreement. It is also important to recognize that the preambular language suggests a reasonable role for the common-but-differentiated responsibilities (CBDR) principle (articulated in various MEAs) in the governance of trade and environmental policies as it also includes in the same paragraph that efforts to preserve the environment be accomplished by members “in a manner consistent with their respective needs and concerns at different levels of economic development”.

The 1994 Tuna-Dolphin II Panel was the first GATT panel to refer to the objective of sustainable development. The recent Appellate Body reports of the WTO indicate greater sensitivity to provisions of the Preamble to the WTO Agreement, and reasonable interpretations of GATT Article XX ‘exceptions’, thus allowing for non-discriminatory application of ETMs and resolution of environmental trade disputes (ETDs). However, the most recent ruling of 2011 from the WTO in relation to the Mexican Dispute (launched in 2008) on ‘dolphin-safe’ labeling by the US rejects the US labeling mechanism; it has been found inconsistent with the non-discrimination principles of the GATT and TBT as the so-called voluntary labeling requirement is *de facto* mandatory and discriminatory (Source: [ictsd.org/i/news/bridgesweekly/111338](http://ictsd.org/i/news/bridgesweekly/111338), visited on August 16, 2011; see also *The Wall Street Journal*, July 20, 2011 “WTO sides with Mexico in tuna battle with US”).

As a highlight of the WTO jurisprudence, we first summarize an important Case that sheds light on some of the integration principles of trade and environment that have further implications on trade and CCG.

*European Communities–Canada: Measures Affecting Asbestos and Asbestos Containing Products*

(WTO Document WT/DS135/R of September 2000; and AB report WT/DS135/AB/R of March 12, 2001)

This dispute arose out of French Government Decree #96-1133 of December 24, 1996, which banned almost all varieties of asbestos import and production, citing health concerns- a case of environmental public health. On October 8, 1998 Canada sought a WTO Panel, after its failure to reach any agreement with the EC concerning trade discrimination dispute involving an EC member France.

In examining the ‘likeness’ of these two sets of products, the Panel adopted an four general criteria in analyzing ‘likeness’: (1) the physical properties, nature and quality of the products; (2) the end-uses of the products; (4) consumers’ tastes and habits; and, (4) the tariff classification of the products. The Panel declined to apply “a criterion on the risk of a product”, “neither in the criterion relating to the properties, nature and quality of the product, nor in the other likeness criteria ...” (Panel Report, paras 8.130 and 8.132).

The Panel observed that there is a link between the “characteristics of product and the product itself” (para 8.41) and that the reference to ‘characteristics’ is the special feature of the definition of ‘technical regulation’ in Annex 1.1 to the TBT Agreement. Thus the role of TBT was examined in this complaint under the WTO charter Agreements. The Panel concluded that the Decree was justified under GATT Article XX (b), and that it satisfies the chapeau of the Article as well. The panel report led to Canada’s appeal with the DSB. The AB issued its report on March 12, 2001.

Following Canada’s appeal, the EC challenged the Panel’s findings that the two sets of products examined by the Panel are ‘like products’ under Article III.4 (extract given below) of the GATT 1994. The EC contended that the Panel erred in its interpretation and application of the concept of ‘like products’, in particular, in excluding from its analysis consideration of the health risks associated with chrysotile asbestos fibers. The EC argued that, under Article III.4, products should not be regarded as ‘like’ unless the regulatory distinction drawn between them “entails shift in the competitive opportunities” in favor of domestic products.

The GATT Article III obliges Members of the WTO to provide equality of competitive conditions for imported products in relation to domestic products. This is the ‘general principle’ of Article III.1. The AB report at para 87 stated that the general principle set forth in Article III.1 “informs” the rest of Article III and acts “as a guide to understanding and interpreting the specific obligations contained” in the other paragraphs of Article III, including paragraph 4. In interpreting the term ‘like products’ in Article III.4, reference must be made to the general principle in Article III.1, rather than to the term ‘like products’ in Article III.2.

The AB report conclusions included the following:

1. reversal of the Panel’s finding (in paragraph 8.72(a) of the Panel Report) that the TBT Agreement “does not apply to the part of the Decree relating to the ban on imports of asbestos and asbestos-containing products because that part does not constitute a ‘technical regulation’ within the meaning of Annex 1.1 to the TBT Agreement”; the French ETM, viewed as an integrated whole, concluded to constitute a “technical regulation” under the TBT Agreement;
2. reversal of the Panel’s findings (in paragraphs 8.132 and 8.149 of the Panel Report) that “it is not appropriate” to take into consideration the health risks associated with chrysotile asbestos fibers and other related fibers (including cement-based products containing chrysotile asbestos fibers or PCG fibers (comprising polyvinyl alcohol fibers and cellulose-and-glass fibers) in examining the ‘likeness’, under Article III:4 of the GATT 1994;
3. reversal of the Panel’s finding that chrysotile asbestos fibers and PCG fibers, and cement-based products containing chrysotile asbestos fibers and cement-based products containing PCG fibers are ‘like products’ under Article III:4 of the GATT 1994;
4. concurrence with the Panel’s finding that the measure at issue is “necessary to protect human ... life or health”, within the meaning of Article XX(b) of the GATT 1994.



This AB report constitutes a significant milestone in the evolving WTO jurisprudence with greater recognition of the genuine role of the exceptions clauses under GATT Article XX. It is significant that serious attempts have been made to interpret ‘like product’ in relation to the relevant context. This approach is likely to contribute toward enhanced role of environmental exceptions if they comply with other relevant clauses of the articles of the WTO charter. There may be guidance from this in the pursuit of ETMs for CCG.

It is also to be noted here that the balancing the objectives of sustainable development and multilateral trade system is required under the preamble of the WTO Agreement as this Preamble “informs” the GATT 1994 Agreement in general, and its Article XX in particular, in addition to other covered agreements under the WTO charter.

We turn our attention to another important ruling from the Appellate Body of the WTO in another case.

*United States—Import Prohibition of Certain Shrimp and Shrimp Products* (The AB Report WTO/DS58/AB/R of October 12, 1998)

Among the important new interpretations of the AB are those of the role of ‘evolutionary’ concepts in interpreting concepts such as ‘natural resources’. The AB Report at para 130 stated that “From the perspective embedded in the Preamble to the WTO Agreement, the generic term ‘natural resources’ in Article XX (g) is not ‘static’ in its content or reference but is rather ‘by definition, evolutionary’.

The advances, if any, in the WTO jurisprudence in support of the environment and CC interfacing the trade policies, fall short of definitive and predictable norms of interpretations. Forward-looking reforms of the Articles of the WTO charter and in relevant specific policy design are relevant for further progress.

Emerging issues in trade-economy-environment-CC interface include the WTO-consistency of green economic policies at national level that seek to restrict market access to create local jobs. The recent complaint to the WTO by the Government of Japan seeks direction on the Canadian measures under its ‘Green Energy and Green Economy Act, 2009’ argues that the subsidy and other measures violate the WTO rules (GATT Articles III.4 and III.5, Article 2.1 of TRIMS Agreement and Articles 3.1 (b) and 3.2 of the SCM Agreement). Potential new directions for a reasonable balancing of economic, environmental, and social dimensions of policies in relation to international trade are to be sought, not necessarily under an international agreement but individual countries should be allowed to pursue their socio-economic priorities rather than obey ‘one size fits all’ rules of the WTO.

*The complexity of the legal issues may be an unavoidable scenario if and when disputes arise. Excessive time and costs of litigating cannot be ruled out and the outcome itself may not be in favor of protecting the environment or improving CCG. What then is called for is Notification Method, if there are no better reforms in place, so that any intending member seeking to adopt carbon-related differential tariffs or border taxes offers a transparent non-discriminatory approach and*

*notifies all members to seek a reasonable consensus, rather wait for a dispute to arise and seek settlement under the DSU of the WTO.*

Next we examine the role of subsidies and duties in promoting climate-friendly products and services under the WTO regime.

## **2.4 Subsidies for Climate-Friendly Trade**

An important agreement in the WTO charter is the SCM in its scope to allow for subsidies to promote climate protection measures: research and development, concessional facilities for the transfer of climate friendly technology, and related areas. Article 8 of the SCM Agreement allowed certain subsidies as non-actionable for adapting technologies and related new industry category promotions) but this provision lapsed in January 2000. This provision needs to be revived and expanded with a clear requirement for transparency in its application; this is relevant for technology development and concessional financing for transfer of technology. Under the lapsed SCM Agreement (Article 8) provisions “assistance to promote adaptation of existing facilities to new environmental requirements imposed by law and/or regulations which result in greater constraints and financial burden on firms”, limited to a one-time expenditure up to 20 percent of the cost of adaptation. The provision needs to be revived for green subsidies in the interests of climate protection.

Article 1 of the SCM Agreement defines subsidy as a “financial contribution” (direct transfer of funds, foregone government revenues, governmental provision of goods and services, and the creation of funding mechanism) by a “government or public body” that confers a “benefit” with reference to the market competition. The SCM prohibits the following subsidies: preference for domestic over imported goods, enhancing export performance. Article 1 of the SCM Agreement defines ‘subsidy’ as a ‘financial contribution’ by a government or its public body that confers a ‘benefit’. The financial contributions include: direct transfer of funds, foregone revenues, creation of subsidy mechanisms and governmental provision of goods and services. Specific ‘actionable subsidies’ may attract WTO challenges, as in subsidies for renewable energy (especially in relation Article 6.3 of the SCM Agreement which examines adverse effects of subsidies in the market competition).

Lack of distinction and clarity in environmentally beneficial and harmful subsidies in the existing SCM framework is far from helpful (Green 2006). Also, it is no easy task to classify the two categories in any objective manner unless the entire streams (with linkages upfront and downstream) of elements that comprise qualifying or non-qualifying categories are assessed. For example, the role of ethanol deserves greater merit in Brazil as a byproduct of sugarcane industry but not necessarily in a land use change (or crop replacing) situation as in the USA. Considerable further attention is needed on these within and outside the framework of the WTO.

One of the areas where trade and environment tend to mutually support each other in the WTO regime is in promoting environmentally friendly technologies. Concessions/subsidies for environmentally efficient technologies (EET) have been suggested in several international agreements, including the WTO in its SCM Article 8.2 (c). Among MEAs, the CBD Article 16.2 provides that developing countries be provided access to and transfer of relevant biotechnologies “under fair and most favorable terms, including on concessional and preferential terms where mutually agreed upon”.

Emerging issues include the WTO-consistency of green economic policies at national level that seek to restrict market access in order to promote domestically produced renewable energy technologies and to create local jobs. The recent complaint to the WTO by the Government of Japan seeks direction on the Canadian measures under its ‘Green Energy and Green Economy Act 2009’ argues that the subsidy and other measures violate the WTO rules; Box 2.2 summarizes complaints on renewable energy subsidies on related issues in four separate cases.

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## **Box 2.2 Recent WTO Disputes in Energy and Environment**

### *A. Japan v Canada: Green Jobs and Trade Restrictions (WTO Case #DS 412)*

Japan complained in September 2010 to the WTO that Canada (in its Green Energy Act 2009 and actions of the Ontario Power Authority) has embarked on trade preferences to domestic producers in order to support renewable energy and creation of local jobs, possibly offered subsidies and that these features seem to violate the GATT 1994 Agreement, the SCM, as well as Trade Related Investment Measures (TRIMs) Agreement. The European Union and the US wanted to join the WTO consultations on this matter. This dispute could bring to surface several major issues of potential conflict in emerging domestic policies of major countries and existing provisions of the WTO law. This case has recently been followed up by the EU; summary given below.

### *B. EU v Canada Renewable Energy Ontario’s feed-in tariff (FIT) (WTO Case #DS 426)*

The European Union brought in a case on August 11, 2011 related to the Canadian province Ontario’s FIT rules seeking domestic content requirements. The EU argued that the provisions are inconsistent with Canada’s obligations under the WTO regime, especially the following:

Articles 3 (1) (b) and 3 (2) of the SCM Agreement, since the disputes measures constitute subsidies contingent upon domestic material use;

Article III.4 of the GATT 1994, because the measures offer less favorable treatment to imported equipment relative to products originating in Ontario; and,

Article 2.1 of Trade-related Investment Measures (TRIMs), because the measures require the purchase of or use of technology of Ontario origin.

*C. US v China: Measures Concerning Wind Power Equipment (WTO Case #419)*

The US government lodged a complaint in December 2010 regarding various grants and subsidies the Chinese government offered toward power equipment and promoting trade; the WTO provisions claimed to have been include: GATT 1994 Article XVI.1, and Articles 3 and 25 of the SCM. This Disputes ended recently in June 2011 after the Chinese subsidies earlier in the same year. Chinese wind power manufacturers are now among the global leaders for supply of relevant renewable energy production technologies.

*D. Ukraine v Moldova (DS421, 2011): Measures Affecting the Importation and Internal Sale of Goods—Environmental Charge*

The communication of 17 February 2011 to the WTO seeks consultations with the Government of the Republic of Moldova pursuant to the Article XXII.1 of GATT 1994 on the following matters:

Pursuant to the Law “On Charge for Contamination of Environment” of 25 February 1998 Moldova applies “a charge for import of products, the use of which contaminates the environment”, ranging from 0.5 to 5% of the customs value of imported products. The list of goods is extensive and it seems to be a systemic issue. It is argued that like domestic products are not subject to this charge. Moldova also applies “a charge for a plastic or ‘tetra-pack’ package containing products (except for dairy produce)”. It appears that packages containing domestically produced like products are not subject to this charge.

Ukraine considers that the measure is inconsistent with Moldova’s obligations under GATT 1994 with reference to Article III. 1 and 2, by subjecting the products of the territory of other Members imported into the territory of Moldova, directly or indirectly, to internal taxes or other internal charges in excess of those applied, directly or indirectly, to like domestic products and affording protection to domestic production. It is also claimed in the dispute that Moldova seems to have acted inconsistently with Article III.4 of the GATT 1994, by failing to accord to products of the territory of Ukraine imported into the territory of Moldova treatment no less favorable than that accorded to like products of national origin in respect of all laws,

regulations and requirements affecting their internal sale, purchase, transportation, distribution or use.

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Considerable jurisprudence emerged from various trade–environment conflict cases in the WTO litigation processes over the years, as seen earlier. However, several avenues of possible conflict arise in light of emerging policies in relation to the CC problems. *Unless a pro-active framework is developed with due revisions of some of the articles in the WTO charter, a protracted series of disputes can undermine the entire WTO system itself.*

The WTO case law may reduce (the effect known as ‘regulatory chill’) legitimate environmental regulatory authority at national levels, despite claims to the contrary contained in the WTO-UNEP (2009) report stating the WTO jurisprudence demonstrates environmental concerns in trade policies.

We move on to an important area of aid and trade policies to seek potential congruence with the imperatives of CCG.

## 2.5 Aid for Trade and CCG

The Aid for Trade Initiative has been launched at the Sixth WTO Ministerial Conference in Hong Kong in 2005. The funding has increased steadily from developed countries to \$60 billion in 2009. The main elements of activity include: trade finance, infrastructure improvement, quality and standards setting, and capacity building.

Aid for trade policies, if designed in an efficient and effective manner, can co-align with the imperatives of and sustainable development. This potential is being realized only marginally at this time. The WTO at its next Ministerial Conference should be able to authorize a more directed and complementary CCG framework in relation to the current framework. In this line of approach, New Zealand, for example is seeking to mainstream CCG issues and also to ‘climate-proof’ ongoing infrastructure improvement programs. OECD-WTO (2011) survey of partner countries of the aid for trade program reveals a very low ranking of priority for environmental sustainability issues. However, this assessment is conditioned by what is on the menu of policy options and their program activities in relation to ongoing guidelines for utilizing resources under the aid for trade package. For example, when the offered resources for capacity building are not resourceful enough to mainstream trade and CCG as an integral package, it is futile to expect some of the developing countries to visualize the scope and seek such integration.

## 2.6 Doha Round Trade Negotiations

The Doha Round of Trade Negotiations launched in 2001 based on the resolutions is popularly known as Doha Development Agenda (DDA), and these are yet to see any substantial progress in devising relevant policies and enable their implementation. It is ironic that the WTO still maintains (see at [www.wto.org](http://www.wto.org) on its environment pages and on aid for trade pages) that it is not a ‘development agency’, and also that it is not an ‘environmental agency’. It is simplistic, if not counterproductive, to make such negative assertions when trade is an integral part of economic growth and sustainable development. Trade is not an end in itself but an important means for achieving desirable objectives and these can be attained only when a balanced multi-pronged approach is adopted.

DDA has made very little progress for the past decade. In this mandate, Para 31 focuses on liberalization of trade in environmental goods and services (EGS), and also seeks further integration of trade and environmental policies with reconciliation of the WTO and multilateral environmental agreements (MEAs) frameworks. Para 31 (iii) in Doha Mandate seeks a potential win–win–win deal on liberalization of trade in EGS. This aspect is investigated in [Chap. 3](#). Also Para 31 (i) of the Mandate seeks a better reconciliation of treaties under the WTO framework and various MEAs. These issues are examined further in [Chap. 4](#) in relation to the UNFCCC and other important MEAs.

Although it is likely that the Doha Round Negotiations could come to useful conclusion during 2012, the fact they have lagged behind by several years is indicative of the severe institutional limitations. Besides, these limitations have imposed very high costs on societies in terms of lost opportunities for trade, economic growth, and enhanced environmental protection. An improved time-bound process for the conclusion of such agreements makes pragmatic sense in the interests of all.

Ever since 1995 formation of the WTO charter its Committee on Trade and Environment (CTE) has been charged with the responsibility to devise clear rules of reconciliation between WTO members and parties to the MEAs that may not fully overlap the membership (and vice versa). Sluggish at its best, has been the track record of this Committee. The 2001 Doha Ministerial Declaration (para 31 (i) mandated the WTO to consider the effects of trade rules as between parties to an MEA, without changing the existing rights and obligations of non-parties—with the implication any changes in the WTO charter in this regard cannot be expected under the current Doha Round of Talks if and when they conclude. The mandate explicitly directed its focus when it stated: “The negotiations shall not prejudice the WTO rights of any Member that is not a party to the MEA in question” (Doha Ministerial Declaration, adopted on 14 November 2001, WT/MIN(01)/DEC/1).

A Working Group Report of the World Economic Forum (WEF 2010) rightly suggested, *the WTO should negotiate agreements to resolve potential conflicting issues that could arise from the enactment of national measures on CC rather*

*leave those issues to the eventual resolution under the WTO's Dispute Settlement Understanding (DSU).*

Doha Round is not mandated to restructure WTO laws, and any substantial reform will have to be initiated at this time without waiting for the outcome of the slow sailing Doha Round negotiations. As Green (2005) and a few others argue, the reform of the WTO charter is important in accommodating the imperatives of the major issues of CC and the role of international trade.

## 2.7 Moving Forward

Successful conclusion of the DDA is very important, and updating the progress on environmental and CC fronts in relation to trade would be useful win-win-win approach to protect trade, environment and socio-economic development. International Law Association (ILA 2010) Draft Ninth Report of the Committee on International Trade Law, in its Conference at The Hague, noted:

The crisis in concluding the protracted Doha Development Round negotiations, the world financial crisis since 2008, the climate change crisis and unnecessary poverty of more than 1 billion people living on \$1 or less per day illustrate worldwide 'governance failures' to protect international 'public goods' beneficial for all citizens.

Is there a role for a 'peace clause'? Hufbauer et al. (2009) argued for a temporary provision of a so-called peace clause that will allow WTO member countries to adopt CC-related trade policies with due attention to avoid protectionism. However, in practical terms either the measures will be perceived as discriminatory or protectionist by some members of the WTO and can lead to other adverse trade wars.

Besides, how soon can such a peace clause be agreed upon? Experience suggests this is unlikely to occur in a reasonably short time frame, and it might as well be more useful to seek for full agreement. Epps and Green (2011) suggest the role of a new agreement within the WTO system, including formation of a Committee for Climate Change that could also arbitrate on climate related trade measures to lessen the burden of litigation process. Various directions for adoption of allowable (as well as disallowable) PPM criteria could also be part of the new agreement, thus reducing the scope for arbitrary choice of policies in the guise of CCG. A specific new agreement on these lines could enable greater positive actions from members seeking to deploy trade measures that promote the governance of CC, and also reduce legal uncertainties in potential areas of conflict. It has also been suggested that the new agreement could specify relevant procedures that would enable transparency and a review process that would induce international accountability for new trade policy actions by individual members.

There has been considerable debate regarding the role of the WTO in the global environmental governance arena. Several older writings suggested that the WTO should be solely focused on free trade promotion and not be constrained by other

constraints. For example, it has been stated that it is “appropriate that WTO focuses on trade and that other institutions focus on the environment” ... “trade policy is not the right tool and WTO is not the right place to bear the primary responsibility for pursuing environmental quality” (Frankel 2005). Even when it is not primarily responsible, the implications of various types of environmental externalities of trade need to be addressed and this is possible only when a comprehensive integrated approach is adopted. It is an oversimplification to treat trade and environmental issues by seeking one-to-one correspondence between the primary objectives of an organization at the expense of other highly interrelated facets of life.

As Hufbauer and Kim (2009) suggested, the WTO would rather like the MEAs to resolve trade-environment conflicts, but it is the will of the members of the WTO that brings disputes to the WTO doorsteps, realizing a rather conservative and legally strong organization may be of some help in favoring the trade dimensions.

Director General WTO Pascal Lamy stated at the Trade Ministers Dialogue on Climate Change in Bali on December 8–9, 2007 (see details at [www.org/englis/thewto\\_e/dg\\_e.htm](http://www.org/englis/thewto_e/dg_e.htm)):

...the relationship between international trade –and indeed the WTO– and climate change would be best defined by a consensual international accord on climate change .... Such an agreement must then send the WTO an appropriate signal on how its rules may best be put to the service of sustainable development: in other words, a signal on how this particular toolbox of rules should be employed in the fight against climate change.

The claim by the WTO Secretariat that the WTO is not an environmental protection agency offers an insight into its possible underachievement in protecting the environmental dimensions of relevance. “Attention to the world’s ecological needs ought to be a hallmark of a world trade organization” (Charnovitz 2007). Besides, reduction of trade barriers to promote trade and climate protection, and hence economic development with gainful employment, should appeal to all. We will turn to the salient structural aspects of the UNFCCC that is the global apex body for CC in [Chap. 4](#).

In order that the WTO remains a genuine body to address trade and environmental issues involving trade measures, it is important its adjudication methods adhere to its charter that recognizes the role of environmental resources and sustainable development; only then will trade, the main focus of the WTO, remain sustainable. An important opinion from legal experts is noteworthy here. The International Law Association (ILA 2010) Draft Ninth Report of the Committee on International Trade Law, in its Conference at The Hague, noted: (a) The WTO can play a “positive constructive role” by confirming that WTO rules do not stand in the way of genuine environmental measures, and second, by offering guidelines to WTO members as to how they should develop the WTO-consistent climate change legislature; and, (b) disputes about trade-related environmental measures could overburden and undermine the WTO legal and dispute settlement system, unless the above steps are taken.



## 2.8 Urgent WTO Charter Reforms

GATT Article XX (b) needs to be amended to read: “*necessary to protect the environment, human, animal or plant life or health; and to contribute to climate change governance.*” The GATS, now one of the ‘covered agreements’ under the WTO Agreement, includes Article XIV that is nearly identical to GATT Article XX. It is meaningful to revise both with the following important reforms (see also Rao 2000):

1. *Include ‘environment and enable improved climate change governance’, in addition to the usual set of items in GATT XX (b) and GATS XIV (b); and,*
2. *Replace ‘exhaustible resources’ with ‘nonrenewable resources’ in order to include a larger set of resources and under less severe extinction conditions.*

It is useful to note that there exists a degree of incompatibility in the narration of different clauses under GATT Article XX, especially in relation to XX (b) and XX (g): the operative part of the former starts with ‘necessary’, and that of the latter emphasizes the ‘primarily aimed at’ requirement. The former seeks cost minimizing (seek the lowest cost alternative), and the latter tends to be satisfied with a less rigorous application. Under the GATT 1947 regime, ‘necessary’ was usually interpreted in terms of ‘least trade restrictive’ rather than in terms of cost-effectiveness as consistent with GATT articles.

The current WTO negotiations on Environmental Goods and Services deserve more detailed analysis, the subject of the next Chapter.

# Chapter 3

## Environmental Goods and Services Negotiations: WTO

### 3.1 About Environmental Goods and Services

Environmental goods and services (EGS) negotiations under the WTO framework authorized under Doha Round Ministerial Declaration of 2001 [paragraph 31 (iii)], have been going on for about a decade but showed little progress toward any practicable action in reducing tariff and non-tariff barriers (see deliberations under the Committee on Trade and Environment Special Sessions under the WTO). Let us also note that there has been no mention of the words *climate change* in the Declaration. As a result, the mandate regarding EGS negotiations is founded on a narrow focus of objectives and means of achieving the same. The outcome of the negotiations may turn out to be too little too late. In contrast to the proclaimed triple win objectives (trade, environmental, and economic) proclaimed under the WTO charter of negotiations, the output thus far has been dismal on all those three fronts; meeting the imperatives of climate change adaptation (CCA) remains a far cry. Missed opportunities in trade and economic expansion, gainful employment creation, and addressing various challenges of climate change convey the message that the global community needs to gear up toward time-bound efficient decision-making. The role and limitations of current approaches in availing EGS toward CCA, and ways to move forward are summarized below.

When it comes to the energy sector within the EGS categories, the role of state policies or of state enterprises becomes more relevant than market factors, and relative to many other elements in the EGS categories. The World Energy Council (Richards and Herman 2011) suggested the need for plurilateral agreement within the WTO system to enable better actions on liberalizing trade in energy related goods and services that are environmentally preferable; the role of the WTO rule-based trade policies is highlighted to ensure stability of energy markets.

Lack of real progress in the decade that followed the above Declaration is largely due to contentious debates on what are the products and services to be covered under the classification of EGS, whether and how the special and

differential treatment of developing countries be reflected in devising relevant policies. Major developing nations sought focus on these aspects but with little success, and this explains the stalemate. For example, Argentina and Brazil in their communication of June 2010 to the WTO Committee on Trade and Environment Special Session reminded members of the WTO about the obligations under Doha Mandate at Para 50. It has been observed (Jha 2008) that there are only a few developing countries (China, Malaysia, Mexico) in the list of top ten importers and exporters of environmental goods; these countries could possibly enter into plurilateral approach (also called 'request-offer' approach, where countries request specific liberalization commitments from each other and then extend tariff cuts as appropriate to all members) to ensure that improved trade flows occur. In the absence of enabling policies and resources (such as concessional finance and technological infrastructure) for availing liberalized trade benefits under EGS, especially the least developed countries (LDCs), the potential role of EGS in addressing CCA aspects remains limited. The LDCs have currently a market share of less than two percent in global exports. Thus a host of complementary measures are needed to expand their economies with focus on low emission development.

What are the international trade ingredients that can and should cater to CCA via an agreement on EGS? Considering that the imperatives of CCA are primarily in terms of reducing the adverse impacts of climate change in various sectors and regions, the list of elements in EGS remains very large in its coverage. For example, agriculture in Africa and Asia is among the most adversely affected sectors that need urgent attention (IPCC Report 2007). In the current WTO negotiations this is not addressed under EGS at all. Similarly, floods and other disasters are more widespread as a result of climate change; these aspects much greater adaptation measures in terms of physical and institutional infrastructure, including greater use of communication technologies. The current EGS approach is oblivious to this requirement. The WTO negotiating framework for EGS seems to have been grounded an obsolete knowledge base.

The main differences in the WTO deliberations among member countries include defining what constitutes an environmental good or service, reconciliation of conflicting positions of developed world and the rest of the world in the treatment of EGS for trade policies. Various approaches have been proposed and these are typically classified (with considerable overlap) as List Approach (that includes items of relevance in environmental management), Project Approach (depicting goods and services that are oriented toward environmental end products), and a combination of the two.

The List of Industrial Products Approach has been prepared by OECD and APEC groups of countries and has the support of industrial countries. The aim here is to reduce or eliminate tariffs on technology inputs relevant in the environmental fields. There is another List of Environmentally Preferable Products (EPPs) Approach, prepared by UNCTAD and submitted by several developing countries. This seeks to lower or eliminate tariffs for products that are useful for sustainable development and improved environmental management. In the third major approach, Integrated Approach combines elements of both the List Approaches

and adds Project Approach, viz. seeking market access to technologies with little tariffs during development of specific environmentally useful projects. This approach has been advocated with the support of Argentina, Uruguay, India, and a few other countries.

*Irrespective of the approach under consideration, there is little recognition of the urgent needs of CCA and its relationship with opportunities under EGS negotiation to seek a combination of trade policies that can promote trade as well as enhance CCA. Much of this disconnect arises from rather limited awareness and focus of countries toward addressing CCA; this area of concern did not figure in the Doha Round Talks and the EGS structure is not mandated in this direction.*

During 2007 the European Communities and the United States included a few products and services for inclusion under EGS to cater to climate change mitigation and adaptation. Similarly, the Asia-Economic Forum in its 22nd Annual Meeting in November 2010 also sought to integrate EGS negotiations with CC governance (CCG) aspects. However, some of the attempts could well be outside the scope of the Doha Mandate as well as the WTO charter, and there has been no consensus among members.

## 3.2 The Current Scope

What then is the current EGS negotiation framework and what does it stand? The main categories of these EGS drawn up by a group of WTO's members (including the USA) containing 153 (this number coincides with that of member countries under the WTO charter) products in the list are: air pollution control, management of solid and hazardous waste, renewable energy plant, heat and energy management, water treatment, resource efficient technologies and products, and environmental monitoring and assessment equipments. Major segment of these are aimed at the reduction of greenhouse gases and only a few (such as water treatment technologies cater to CCA requirements). The scope and impact of such policies on CC may still be limited relative to the needs of effective CCG. It appears about half the trade in these categories focuses on waster water management and solid waste management (OECD 2005). Clearly, substantial elements of trade goods and services are still far from inclusion in the lists. This seems a process of 'much ado about nothing' thus far.

Logically, a possible consensus-based starter list of a few elements of EGS could have made a beginning with the provision to revise the lists over time (as did some other Multilateral Environmental Agreements such as the Convention on Trade in Endangered Species; see also Cosbey et al. 2010). But even this has not been accomplished because the likely benefits of reduction of tariffs and non-tariff trade barriers (in relation to the items in the lists drawn up so far under EGS) has not impressed some of the major developing economies (Brazil, India, and a few others) as well as least developed countries that have been looking for greater trade concessions and financial assistance (see, for example, Communication from

Argentina and Brazil, WTO Document TN/TE/W/76, June 2010). Besides, some countries expressed the view that the list includes export priorities of developed nations rather than environmental priority-oriented elements. A possible way out of this could revise the list to enlarge and include areas where developing countries can compete as well (Meyer-Oehlendorf and Gerstetter 2009).

A review of experiences with some of MEAs suggested that a list of EGS must be a ‘living document’ to which additional items can be added from time to time based on scientific or other new information (Cosbey et al. 2010).

*A new Agreement on EGS under the WTO framework could reduce tariffs on EGS and enhance trade in the relevant sector as a win-win scenario. However, the scope and impact of such policies on CC tends to remain very limited relative to the needs of effective CCG.*

For example, in the areas of liberalizing international trade in environmental goods and services, some of the estimates (World Bank 2008) suggest that elimination of tariffs and other barriers to trade can contribute to an additional \$56 billion expansion in trade currently (and thus added employment potential) per year.

The role of trade policies linking carbon footprints of goods and services and a proposal by Singapore on carbon-related border tax adjustments have been deliberated rather recently (July 6, 2011) at the WTO’s CTE but no agreement has been reached. This is primarily due to the following *obstacles to adoption of carbon footprint-based trade norms: lack of transparency in devising and implementing trade practices, lack of international harmonization of carbon footprint standards and proliferation of multiple carbon impact factors, lack of capacity in many of the developing countries to cater to application of carbon-related trade measures, lack of consensus on the scientific basis for devising relevant standards for possible adoption.*

Besides, trade in EGS is demand driven and not necessarily supply driven. A number of complementary enabling factors are required: regulations, concessional finance, integration with other development priorities, and related issues.

To bring in a sense of proportions, the elimination of tariffs and non-tariff barriers could lead to trade volume expansion in some of the elements of EGS (World Bank 2008): by about 23 percent in wind power generation, 14 percent in solar power generation, and 64 percent in efficient lighting technology. International trade in EGS has been estimated to comprise about ten percent of the total \$650 billion global trade in environmental industry trade (World Bank 2008), using the elements of EGS as understood in the current and narrowly drawn up lists under the WTO framework.

### 3.3 The State of Play and Current Negotiations

The following is a summary based on the Report of the Chairman of the Trade Negotiating Committee of the CTE in Special Session (CESS) (WTO Report TN/TE/20 of April 21, 2011, available at [www.wto.org](http://www.wto.org))

In an effort to combine the various elements of all proposals on the table, the *hybrid* approach includes the following components: (1) an agreed core list which would comprise a targeted set of environmental goods on which all Members would take commitments; (2) a complementary self-selected list: developed countries would individually select a number of environmental products for tariff elimination and developing countries are encouraged to participate; (3) as a complement to the common core list and complementary lists, products would be identified through a request/offer process, the outcome of which would be multilateralized in accordance with the Most Favored Nation (MFN) of the GATT principle; and (4) environmental projects could be used to identify lines for inclusion in the common core list, the complementary self-selected list or the request-offer list<sup>11</sup> or by unilateral liberalization if used in environmental projects.

#### A. Hybrid Approach

1. an agreed *core list* of environmental goods drawn from the reference universe (given in Annex II.A of the above cited CESS Report) on which all Members would take commitments;
2. a *complementary self-selected list*: developed countries would individually select a number of environmental products for tariff elimination and developing countries are encouraged to participate;
3. *request/offer process* as a complement to the common core list and complementary list, the outcome of which would be multilateralized in accordance with the MFN principle; and
4. *environmental projects* used to identify lines for inclusion in the common core list, the complementary self-selected list or the request-offer list or by unilateral liberalization if used in environmental projects.

#### B. Alpha Beta Combined Approach

1. Alpha—developed Members self-select Alpha goods from the reference universe (in Annex II.A of the Report);
2. Beta—developing Members self-select Beta goods from the reference universe (in Annex II.A);
3. Alpha greater than Beta—subject to an agreed Alpha minimum number of tariff lines for developed country Members and a Beta minimum number of tariff lines for developing country Members, with Alpha being greater in number than Beta;
4. products not covered by the individual Member's self-selected list could be committed under a *request and offer* process on a voluntary basis.

#### C. Core—Common List with Complementary List

A Core or Common List of goods for all Members multilaterally agreed set of goods would be subject to periodic review under some form of review mechanism.

In addition to goods included in the core list, developed country Members would self-select a number of products comprising a complementary list. Goods on which there is strong acknowledgement of environmental credentials, but no consensus, could constitute a complementary list, of which Members must self-select a certain per cent of tariff.

### **3.4 What Can be Done Next?**

The EGS negotiations should wake up and gear up toward CCA, an area that was not a priority at the time of launch of Doha Round Negotiations a decade ago. The requirements of CCA imply substantial additional international trade in the areas of technology products and other goods with support from new funding sources such as the Green Climate Fund. If we draw up a reasonable list of elements of EGS that could cater to CCA requirements, the corresponding global market and trade expansion potential as well as employment creation (green jobs) would be several fold the estimates given earlier. This is because the requirements of CCA in terms of EGS extend far beyond the current list, and beyond sectors included in the ongoing debates under the WTO framework. The International Standards Organization (ISO) is developing ISO 14067 that offers good deal of information to quantify the carbon footprint of goods and services. It is expected to pave the way for devising transparent trade policies linking some of the requirements of effective CCG.

Since the Doha Round of Negotiations is not mandated to restructure WTO laws, any substantial reform will have to be initiated at this time without waiting for the outcome of the slow sailing Doha Round deliberations. The WTO charter needs to explicitly incorporate CC and its imperatives on international trade policies as soon as possible; the role and application of various potential agreements including the one related to EGS can be meaningful and effective in win-win scenarios.

WTO charter needs urgent revision to bring it update on science, policy governance of both trade and climate change. Among the relevant reforms are: GATT 1994 Articles I, III, and XX to allow for process-and-product measures in distinguishing among 'like products' in relation to carbon embedded in the products. Currently any discrimination or preferential treatment on the basis of production and process methods is inconsistent with the WTO law. Unless the definition of 'like products' is revised in the WTO charter to reflect these features, a potential conflict will always exist in harmonizing trade and environmental objectives. Promoting environmentally preferred products (EPPs, defined as those with less carbon intensities over their respective lifetimes) under EGS negotiations, or others catering to CCA, draw upon such distinctions in order to comply with the 'non-discrimination' norm of the WTO charter. EPPs will be easier to rank among alternatives, and a meaningful and comprehensive list of elements of EGS can be meaningfully drawn up. This assessment is helpful for devising trade policies governing EGS, and for their contribution toward CCA as well.

Among relevant negotiating models and strategies for making progress under current EGS deliberations is the General Agreement on Procurement (GPA) under the WTO framework that allows for plurilateral approach (rather than as Single Undertaking approach for all the members), wherein a group of members can mutually agree on ‘request-offer’ methods of non-discrimination in their trade relations pertaining to the items in approved categories.

Government procurement accounts for about a fifth of the total market in OECD countries and a little less in rest of the countries. (van Asselt et al. 2006). The role of GPA in reducing GHGs is significant, but the scope is not fully utilized under the current Agreement. Because of the nature of the limited membership it is unlikely that further steps in promoting climate-friendly measures will come into conflict with the WTO charter, and thus potentially least problematic (Brewer 2004). However, in its current form and operations the GPA is restricted to a few sectors and threshold limits. There is little reason not to exploit the GPA potential in trade and procurement policies that contribute to improved CCG. The GPA in its current form has been in operation since 1996 but has hardly any influence on climate-friendly public procurement practices in most countries (van Asselt 2006).

The Doha Declaration also sought (at paragraph 50) that the negotiations (EGS as well as others) application of the principle of “special and differential treatment” for developing and least-developed countries. The requirements of climate change adaptation could facilitate large-scale trade expansion with the utilization of funds via the newly established Green Climate Fund, as per the December 2010 Cancun Summit of the Conference of Parties of the UNFCCC.

It is important that the EGS agreement under the WTO’s Doha Round wakes up to the times. Adopting a plurilateral approach may be faster in making some progress, but that does not solve the needs of CCA via EGS trade policies. The current trends of the WTO’s Doha Round of Talks indicate that the outcome is less likely to meet the original spirit and objectives of these deliberations. Even when there is an agreement on EGS in this framework, it is likely to be of minimal contribution to the requirements of CCA. Besides, as argued above, some of the reforms in the WTO charter are required to derive a reasonable force to the potential role of EGS in meeting the imperatives of CCA; this could take a very long time.

It is, therefore, necessary that *the UN Framework Convention on Climate Change and the new Green Climate Fund gear up to adopt trade-specific policy measures that could enable trade expansion with concessional finances where necessary in the transfer of climate-friendly goods and services*. This may offer hope for addressing CCA imperatives in combination with trade policies, somewhat similar to the successful Montreal Protocol to the Vienna Convention on Ozone Depletion.



# Chapter 4

## Multilateral Environmental Agreements and Trade Policies

### 4.1 Multilateral Environmental Agreements with Trade Measures

A brief summary of multilateral environmental agreements (MEAs) incorporating trade measures is given below.

Among the most significant MEAs using trade restrictions for environmental objectives are: Convention on the International Trade in Endangered Species (CITES), Montreal Protocol (MP) to the Vienna Convention on the Ozone Depleting Substances, and the Basel Convention on the Transport of Hazardous Waste. Box 4.1 provides a list of most of the significant MEAs that specify directly or indirectly the role of trade policies to regulate environmental resource utilization and seek environmental sustainability. Most agreements tend to focus on environmentally sound technologies and resource transfers to enable all countries to effect more environmentally benign methods of resource exploitation. An integrated perspective that recognizes the role of externalities of all types and corrective mechanisms is still lacking. For example, if ecosystem interdependencies are ignored, some of the adverse externalities tend to be ignored and thus affecting sustainability of trade itself over time.

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#### Box 4.1: MEAs with Trade Measures

The list below includes most of the relevant Agreements with explicit and implicit implications for international trade policies and practices. Each of these has not been ratified by the same set of countries, however.

- International Convention for the Protection of Birds (1950)
  - International Plant Protection Agreement (1951)
  - Convention on Conservation of North Pacific Fur Seals (1957)
  - Agreement Concerning Cooperation in the Quarantine of Plants and their Protection against Pests and Diseases (1959)
  - Rio International Convention for the Conservation of Atlantic Tunas (ICCAT) (1966)
  - Phyto-sanitary Convention for Africa (1967)
  - The African Convention on the Conservation of Nature and Natural Resources (1968)
  - The Benelux Convention on the Hunting and Protection of Birds (1970)
  - Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973)
  - Montreal Protocol on Substances that Deplete the Ozone (1987)
  - Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)
  - Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific (Wellington Convention) (1990)
  - Convention on Biological Diversity (CBD) (1992)
  - UN Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (1994)
- Source: Rao (2000).

Trade and environmental policies can be integrated both from economic and human rights perspectives. The evolution of environmental rights in terms of human health rights is illustrated in the 1998 Rotterdam Convention on Harmful Chemicals and Pesticides (adopted and signed September 11, 1998), which constitutes a major step in moderating the trade and its effects in cases of some of the listed hazardous chemicals. Article 1 of the Convention states its Objective:

to promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm and to contribute to their environmentally sound use, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties.

Some of these measures are to be availed with the process of Prior Informed Consent (PIC), originally devised about a decade ago by the Food and Agriculture Organization (FAO) of the UN, UNEP and other international organizations. The PIC procedure is a means for formally obtaining and disseminating the decisions of importing countries as to whether they wish to receive future shipments of a certain chemical and as to ensure compliance to these decisions by exporting countries. The aim is to promote

a shared responsibility between exporting and importing countries in protecting human health and the environment from the harmful effects of such chemicals.

The most important international agreement regarding climate change remains the 1992 UN Framework Convention for Climate Change (UNFCCC), with its Conference of Parties (COP) setting policies and programs almost annually. Some of the key aspects of this charter are discussed below, along with a summary of their limitations.

## 4.2 The United Nations Framework Convention on Climate Change and Its Kyoto Protocol

Let us review some of the major provisions of the UNFCCC Articles in relation to trade and CC.

The UNFCCC Article 3.5 states: “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”.

Article 4 of the UNFCCC specifically seeks, with due consideration of ‘common but differentiated responsibilities’ among nations, to develop and promote transfer of technology for climate change mitigation and clarifies added responsibilities of developed countries in this context. This Article also is need of updating to reflect urgent concerns of climate change adaptation, however.

Article 2.3 of the Kyoto Protocol stated that policies and measures under the Protocol be implemented in such way as to “minimize adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other parties...”

In juxtaposing trade and CC policies in relation to the WTO charter and the UNFCCC, it is useful to recall some of the major legal norms under international public law. These are stated below.

Vienna Convention on the Law of Treaties 1969 in its Article 30 (3) states that where two treaties govern the subject matter the more recent treaty (*lex posterior*) of the two applies as between parties to those treaties to the extent of any inconsistency; when there are general and special treaties governing the same subject matter, the specific treaty (*lex specialis*) applies among parties to both treaties. Also, Article 30 (4) (b) specifies that as between a state party to both treaties and a state party to only one of the two treaties, the treaty to which both are parties becomes binding.

The membership of the UNFCCC is larger (with 195 country parties) than that of the WTO (with 153 members), and it is thus easier to devise agreements on some of the trade-environment interrelationships under the UNFCCC framework. This has not been paid due attention thus far, possibly because of the ‘regulatory chill’ effect: the WTO charter comprises significantly larger description of issues

and their rules and has a very elaborate dispute settlement system. It is important that among others, the UNFCCC Article 3 (especially 3.5) addresses the role and specificity of trade measures that address the climate change governance issues effectively. This will reduce considerable litigation under the WTO process. Currently, both Article 3.5 of the UNFCCC and Article 2.3 of the KP reverberate the limits of unilateral measures of nations if they imply trade discrimination but do not allow for reasonable preferences (trade to mitigate and to adapt to CC) in relation to climate protection.

The compliance mechanisms in the UNFCCC and the KP remain too weak to be of use. To illustrate, Article 14 of the UNFCCC calls the Parties to “seek a settlement of the dispute through negotiation or any peaceful means of their own choice”. *Contrary to the WTO charter, MEAs normally do not have compulsory dispute settlement mechanisms and do not issue binding decisions; MEA signatories rarely resort to these mechanisms.*

The commonly highlighted analogy of MP for KP may not be valid for the following reasons (Cosbey 2009): under the MP, the issue was free-riding non-Parties, whose role could nullify the objectives of the Protocol. With the UNFCCC policies it is not about non-Parties (when almost the entire world is involved) but about Parties that do not belong in the KP or those with less stringent measures to regulate the climate.

The elements of the KP’s 4 year term ending in 2012, include three “flexibility mechanisms” (the Clean Development Mechanism, Joint Implementation, and Emissions Trading Schemes) that allow countries to utilize emissions trading to meet their commitments. The negotiations for a new climate agreement include discussions on “Various approaches, including opportunities for using markets, to enhance the cost-effectiveness of, and to promote, mitigation actions” that are exploring the development of use of new or expanded markets.

The largest attempt in emissions trading has been the Emissions Trading System (ETS) in the European Union is seriously flawed both in its design and environmental effectiveness (Winter 2009).

In other words, not only that the KP is less effective because of lack of participation from major economies, but also because it has major design flaws that contributed to mechanism such as ETS ineffectiveness, and largely due to carbon leakage- discussed below.

### **4.3 Carbon Leakage, Border Carbon Taxes, and Post-Kyoto Framework**

Carbon leakage is the process of allowing unaccounted emissions of GHGs to their own levels, while those covered under a policy or agreement for their reduction may be accounted for. Alternatively, this leakage can be a byproduct of an incomplete frame of reference in the total set of emissions of GHGs. By focusing

on total emissions from the production of traded goods a broader perspective merges, and trade policies can be reformulated to contain emissions of GHGs. The IPCC (2007) definition of carbon leakage is too narrow since it has reference primarily to the climate policy under the KP and ignores trade-related and consumption-based emissions; it also indicated the positive spill-over benefits (due to technical improvements of Clean Development Mechanism) could offset some of the leakage aspects.

Most studies that examined carbon leakage issues (including such aspects as Pollution Haven Hypothesis, i.e. relocation of industries wherever production costs are lower) on the basis of this definition came with estimates of small effect of the phenomenon. These findings contradict the factual features: expanding international trade and consumption and enhanced global emissions of GHGs.

Since substantial carbon leakage that now occurs with reference to KP, the usefulness of the agreement is seriously in question (Prins and Rayner 2007). Apart from lack of universal participation among the UNFCCC member countries, several important sectors of economic activity have been left out of any incentives/disincentives to limit their carbon usage. The post-Kyoto (that is post-2012) framework needs to reassign priorities and approaches for an improved governance of CC. Some of the expanded measures at national and international levels in relation to trade include: border carbon tax adjustments (BCAs) (that is taxation in relation to carbon intensities embedded in imported goods and services), and international emissions trading (with possibly allowing for some quotas for eligible countries/products).

The legal issues arising out of free allowances under international trading schemes have been partly examined by Jegou and Rubini (2011), who suggest that the GATT 1994 provisions under Article XX exceptions in relation to environment (as it translates into effects on health aspects and hence CC considerations) may be relevant to enable such allowances; this has been stated as support reason for implied subsidies that accrue under free allowances, as the Article 8 subsidies under SCM have lapsed at the beginning of this century.

International trade underlies the effects of many of the lacunae of the KP, besides its lack of universal participation by countries. BCAs are related to consumption-based GHGs, these include trade related emissions as well. Focus and targeting of production-based emissions is bound to lead to diverging assessments of the emissions relating to a country's consumption and the global production (Peters and Hertwich 2008b).

Carbon footprints tend to capture the carbon-equivalent of GHGs emitted in various processes, entities, and activities. Based on a trade-linked model of the global economy, it has been found that consumption-driven emissions of GHGs tend to dominate production-based GHGs (Hertwich and Peters 2009). Carbon leakage is a separate issue, but the robust correlations between the two are not to be missed for the design of policies for containing these emissions. By focusing on carbon footprints it may be feasible to dissect the sets of activities at various levels that can be re-oriented in order to reduce the emissions of GHGs to desirable levels at reasonable costs.

It has been generally maintained that the UK has been a leading country in curbing emissions of GHGs and that it has met the KP obligations. However, this claim is valid in a narrow context of its territory-based and production-related emissions. The UK imports and consumption added more emissions than it managed to reduce during the past few years (Baiocchi and Minx 2010). A gradual increase in fossil fuel energy-intensive production in developing countries has been occurring, partly due to climate change policies in developed countries (World Bank 2008), a classic problem of carbon leakage.

Internationally traded goods are shown to account for about 22% of global carbon emissions in 2001 (Peters and Hertwich 2008c). It is suggested that the emissions associated with goods consumed, rather than those produced, could be brought under the umbrella of emissions caps for developed countries, and this could provide incentives for large-scale mitigation options in developing nations. In a recent study, Peters et al. (2011) estimated that the carbon leakage exceeds the KP reductions in 2008, and the trend continues for worse; the estimates indicate that the emissions from the developing exporting countries contributed by developed countries' consumption have been six times the emission savings effected domestically in the industrialized countries.

The role of BCAs or related measures, reflecting 'embedded carbon' in traded goods need to be assessed further for its feasibility in terms of legal, financial, and strategic aspects. BCAs need careful scrutiny on two grounds (WTO-UNEP 2009): (a) rationale based on accurate assessment of carbon leakage and competitiveness losses, and, (b) determining 'fair' price or tax to be imposed on relevant imports to bring those into line with the domestic cost of compliance. In addition, there are a few legal compatibility issues in relation to the WTO law. If internationally traded goods are distinguished in relation to their carbon content or carbon intensities production, the WTO-consistency of such 'process and product methods' (PPMs) may be tenable or untenable depending on the rationale and mechanisms of implementation (Charnovitz 2002).

It is desirable that 'multilateral discipline over the use of unilateral trade measures' is maintained, and that the US and other countries that have unilateral initiatives on the anvil must secure negotiated understandings with other trading partners (Werksman et al. 2009). This is relevant in the absence of a revised WTO charter, to reconcile various objectives of trade, climate policy, and domestic job creation. This will reduce *ex post* litigations or other repercussions. Under the current WTO charter, this may be feasible in relation to plurilateral trading agreements where a group of countries can form a coalition for reciprocal trade arrangements within the group but not discriminate against others.

The potential for imposition of implicit trade barriers, and excessive compliance costs (and other administrative or transaction costs), in administering the BCA measures is considerable (Persson 2010). Given the design as well enforcement complexities (and corresponding costs), BCAs "are a last resort and only be seriously considered when all other means have been exhausted" since the potential disadvantages seem to outweigh potential benefits (Meyer-Ohlendorf and Gerstetter 2009).

The GATT (preceding the WTO formation) approved the use of these BCAs under the Superfund Act.

The WTO Committee on Trade and Environment (CTE) discussed in July 2011 the feasibility issues in relating international rules and BCAs as proposed by Singapore. The Singapore Document (WT/CTE/W/248, March 30, 2011) also stated rightly that there are difficulties in implementing and administering BCAs, including in identifying the energy or carbon content embedded in traded products. The Committee felt that there is little room for adopting BCAs under the WTO charter, at least at this stage. However, the deliberations are expected to continue for some time for final decisions. In the same sets of meetings it has also been argued by some of the developing countries that the CTE should not pursue these matters until the UNFCCC resolves relevant trade and CC nexus policies at the Conference of Parties (COP) of the UNFCCC, Durbin in December 2011 and subsequent annual meetings. It is less likely that the UNFCCC will act in addressing trade and CC policies, in abroad sense. The primary reason for this near universal body (relative to the WTO membership) is its pre-occupied agenda dealing with reductions of greenhouse gases and individual target setting for this purpose, a highly contentious complex deliberation process. *It should, in principle, be feasible to set forth targets that take into account not only those based on domestically produced GHGs but the emissions that combine overall consumption, production, and trade (import/export) related activities.* Once this approach is broadly accepted, especially in light of the futility of the KP (mainly because of carbon leakages), some directions on priority measures in relation to consumption and trade can be offered.

#### **4.4 Border Carbon Adjustments Initiatives in the USA**

The European Union (EU) and the US (as seen in the Waxman–Markey Bill in the US Congress 2009) have been contemplating measures to deploy BCAs in order to reduce carbon leakages in international trade.

The Lieberman–Warner Bill (America’s Climate Security Act), proposed earlier in the US Congress but stalled, sought to invoke embedded carbon-based tariffs on imports. However, there are several gaps in the calculation methods and coverage of goods that remain to be addressed, and so are the potential legal problems under the WTO system (Kejun et al. 2008).

Besides, the American Clean Energy and Security Act of 2009 (ACESA, also known as the Waxman–Markey Bill) sought to establish a cap-and-trade program, and included energy performance standards and allowance requirements (or quotas) for imports. This Bill remains pending further actions from the US Senate, but several adverse reactions have set from countries including China and India fearing discrimination and protectionism—both untenable under the WTO system.

The US and other proposed legislative measures to levy carbon tariff in some ways constitute unilateral measures and might warrant litigation in the WTO

system. Carbon leakage and creation of green jobs domestically are some of the objectives of these proposed measures.

Let us note that the US has applied environmental BCAs on at least two occasions:

1. Imports of specified chemicals and related products to balance the domestic excise taxes under the US Superfund Amendments and Reauthorization Act 1986;
2. Import duties to complement the domestic excise tax on ozone depleting substances (ODS) in 1990.

Winchester et al. (2010) rightly concluded:

- (a) Although the US and a few other countries may look for BCAs to control carbon leakage and address trade competitiveness, “BCAs are imprecise instruments that, even when finely tuned to target embedded GHG emissions, cause much collateral damage.”
- (b) BCA-equivalent leakage reductions can be achieved by very small emission charges or efficiency improvements in nations targeted by BCAs.

Among other alternative measures to curb the emissions of GHGs, consumption-based interventions are relevant. Production-based as well as consumption-based GHGs accounting enables better sharing of responsibilities between producer and consumer nations (Bruckner et al. 2010; UNEP 2011). Currently, some of the major environmental impacts are being externalized. Consumption-based GHG emission inventories have advantages over production-based inventories, as are economic activity-based policies rather than country’s geographic territory (Peters and Hertwich 2008a): addressing carbon leakage, increase options for mitigation, encourage technology diffusion and environmental comparative advantage. However, a number of coordinated national initiatives are needed to effect market and regulatory policies to effect consumption-based governance of CC. This will be a task for the long run. In the meantime it should be feasible to revise the WTO charter and the UNFCCC provisions, and devise a post-Kyoto agreement that makes contributions to trade, environment and economy.

## **4.5 Climate Friendly Technology Transfer and Trade**

Effective technology transfer and financial mechanisms played critical roles in the MP to have become effective, with the use of environmental trade restrictions. Since the canvass and impact of all GHGs is quite substantial relative to the ambit of the Montreal Protocol, corresponding scale of measures are called for.

The trends in innovation and technology transfer concerning climate-friendly technologies have not been very encouraging: the rates of rates innovation have constantly gone up after the adoption of the Kyoto Protocol but the same is not true



of technology transfer in these areas (Dechezlepretre et al. 2008). This is expected to change after the 2010 Cancun Agreement to provide resources for concessional transfer of technology to developing countries.

The potential role of international trade in promoting climate friendly products and services and technology of transfer, in reducing the use of carbon-intensive products, and in adapting to the adverse impacts of CC, remains significant largely untapped. It may be feasible to levy embedded carbon tariffs and simultaneously provide concessional climate-friendly technology to developing countries under the ‘common but differentiated responsibilities’ principle in the UNFCCC framework (Wang and Watson 2008). The roles of climate friendly technology transfer and provision of financial resources are very significant in governing CC. The frameworks of the WTO trade regime and of the UNFCCC governing these aspects need to be assessed for synchronizing relevant objectives of CC governance and specifications of trade policies, and potential options for post-Kyoto Protocol framework effective 2012 are to be explored. A key issue here is to examine the WTO-consistency of emerging technology transfer policies to benefit the governance of the environment and CC, with or without changes in various relevant Articles of the WTO charter. Technology development and trade of climate-friendly goods and services may be accelerated or retarded by policies affecting international trade.

Cooperative agreements on technology transfer and coordinated design of environment-trade policies among nations is a superior mechanism to address climate change and trade in a mutually supportive sense relative to policies such as BCAs and other tariff systems (Weber and Peters 2009). An obvious and effective coalition would be the Group of Twenty (G-20) countries that command about 90% of both economic and emissions of GHGs. It is by no means an easy task—unless developed countries in the group offer reasonable incentives of concessional technology transfer and provision of resources to meet the desired goals of the governance of climate change without necessarily foregoing the benefits of expanded trade. A clue here lies in promoting relevant technologies (such as renewable resources) and enhancing trade in these for both climate change adaptation and mitigation. This has considerable added potential for trade expansion and also corresponding economic and environmental benefits. This also constitutes an illustration of the effectiveness of integrative approaches in negotiation via issue linkages that are transparent and effects largely foreseeable as well as cost-effective.

## 4.6 What Needs to be Done and How

The pursuit of an international agreement on global emissions of GHGs is a first-best option. The second-best options seek to address carbon leakage via a host of regulations, largely based on national policies, and thus could run into some potential conflicts with existing rules as provided in the WTO. A careful balancing

of the costs of leakage-mitigating measures against benefits is an important prerequisite for policy decisions (Reinaud 2008). Even with such balancing, there is no assurance of legal validity under the WTO framework in so far as trade measures are concerned.

As a step toward reducing carbon leakages, carbon tariffs on imported goods, subject to conditions of non-discrimination and a few others, may be consistent with the WTO law. However, it may not be wise in the larger context across nations and their trade relations to initiate unilateral actions that can result in collateral damages. Despite their short-term appeal (as in the US legislative initiatives launched in 2008 and not active at this time), carbon tariffs pose considerable costs of implementation and possibly provoke climate-inefficient choices in other countries; these may have to be given up (Holzer 2010; Izard et al. 2009).

If trade-related measures are adopted in a post-Kyoto agreement, the WTO members could adopt a resolution to declare these take precedence over existing rules.

*The UNFCCC, which has a larger membership relative to the WTO could revise its charter or offer a Protocol on trade and environment that would then be binding all members/parties to both the WTO and the UNFCCC. Because of the system overload and limited additional policy space under the WTO framework it is prudent that the UNFCCC comes up with a new Protocol rather seek remedies under the WTO system. However, since the dispute resolution mechanism is almost non-existent in the UNFCCC, this needs to be strengthened significantly.*

## Chapter 5

# Pragmatic Next Steps

Several of the alternative approaches that have been examined in the policy literature (economics, policy, and law, among others) explore the potential role of international trade policies in CCG. The main differences among these arise from variations in the time interval ahead for effecting relevant policy reforms, limiting to usage of current policy and legal instruments, potential scope for institutional reforms and design of new policies as well as international agreements.

International law making and international administrative agencies carry substantial costs of conducting their activities (transaction costs). Global agreements, if devised in an effective manner, can reduce costs both upfront and downstream. Global agreements, if devised in an effective manner, can reduce both upfront costs of treaty formation and also downstream costs of implementation, compliance and dispute resolution. Setting standards, regulations, enforcement, compliance, monitoring and verification, roles of *ex ante* costs and *ex post* costs, motivational factors and incentives for compliance are all relevant ingredients in the design of an international agreement.

While agreeing that the WTO is not an environmental protection agency, it is also important to realize that it is not bestowing favors to the global community when it obeys public international laws and respects its own charter of formation that recognizes environment and sustainable development. Ideally there is need for formation of a World Environment Organization as a treaty-based entity. But such an institution would primarily focus on the environmental objectives and any potential conflicts in trade and environmental policies still need meaningful resolution using legal and institutional mechanisms.

In general, adoption of ecosystems approach in devising the trade and environmental policies in various “international agreements lag far behind science and economics” (Rao 2010), and this situation needs to be corrected in each of the multilateral agreements as soon as feasible. *One of the mechanisms for designing an up to date dynamic agreement is to bring in latest scientific information into*

*processing when an agreement is in its final stage of concluding. This is particularly important when the duration of deliberations for arriving at an agreement exceeds 5 years (as for example, in the case of the Doha Round of Trade Negotiations).* Prolonged negotiations and hence large time lags of ten or more years in the updating of scientific knowledge is not an uncommon scenario as in the International Agreement on the Law of the Seas, or the current Doha Round Negotiations under the WTO.

Priority Strategies in Policy and Institutional Reform may be summarily listed below. Relevant considerations in the design of new agreements and institutional mechanisms include: broad consensus if not total consensus; *ex ante* costs and *ex post* costs of: forming agreements, monitoring, enforcement, dispute prevention and resolution; legal validities considering the Vienna Convention on Treaties and other international public law instruments.

The potential institutions outside the WTO system are mainly those that can be contemplated via the UNFCCC Articles of Agreement and its COP decisions at the Conference of Parties (COPs). An International Agreement on Trade and Green Investment also may be relevant as this could integrate the new Green Climate Fund with the provisions of the WTO, UNFCCC and the requirements of CCG.

Potential policy strategies and institutional reforms are briefly listed below.

1. *Among broad policy imperatives is the role of virtual carbon trading with free trading allowances to eligible countries.*  
Among the potential new instruments of policy in this context that deserve priority attention include the role of virtual carbon trading (see Atkinson et al. 2010) at the international level, with provision for free allowances for trading among various developing countries to allow for ‘catch up growth’ even with low carbon emissions scenarios.
2. Green growth policies being pursued by various countries are not necessarily consistent with the WTO rules. The WTO charter needs to be revised to include the words *climate change* and environment in the GATT and other agreements, and also specify the supportive measures for trade and environment synergies, rather bestow exceptions for environment-related concerns on a narrow basis.
3. *Since the Doha Round is not mandated to restructure WTO laws, substantial reform to integrate trade and environmental issues as well as trade and CC governance issues needs to be initiated at this time without waiting for the outcome of the slow sailing Doha Round negotiations. This is the time to launch a new Round of Trade Negotiations, considering the ‘snail pace’ that usually applies to these kinds of deliberations (although snails could be insulted if the current ongoing Round is any indicator of pace of progress).*
4. The UNFCCC Articles need revision to reflect trade relationships and take advantage of its larger membership relative to the WTO membership to forge a binding win-win specifications governing trade promoting and climate protecting measures, besides devising meaningful dispute prevention and dispute resolution mechanisms.

5. *The 2010 Cancun Agreement of the UNFCCC enables substantial initiatives for Technology Transfer Center and Network, and these need to be effectively integrated with the WTO activities, including the 'Aid For Trade' program that is coordinated among the OECD, United Nations Development Programme, the World Bank, and the WTO.*
6. *The Cancun Adaptation Framework seeks integration with disaster risk reduction programs, and the international trade activities should be integrated with these imperatives.*
7. Designing a sequential stage-by-stage within the WTO system may be useful, as argued by Epps and Green (2011). This has the advantage of availing the existing institutional framework and building upon it systematically. However, *the WTO charter needs urgent revision to bring it update on science, policy governance of both trade and climate change. Among the relevant reforms are: GATT 1994 Articles I, III, and XX to allow for process-and-product measures in distinguishing among 'like products' in relation to carbon embedded in the products. In order to ensure avoidance of disguised trade restrictions or related apprehensions from some of the member countries, a broad-based committee needs to be formed under the WTO charter so that the committee can expeditiously process proposed policies of some of the members as they notify the entity ahead of possible actions. This can expedite formulation of policies integrating trade and CCG, and reduce litigation problems.*
8. It is possible to visualize a stand-alone new international agreement outside the WTO charter but encompassing the above issues and approaches and in compliance with the UNFCCC process, and as suggested by Epps and Green (2011), there may be a better sense of urgency in dealing with CCG and trade when we seek the forum outside the WTO system that has been making little progress during the past decade.  
A focused international agreement, somewhat similar to the successful Montreal Protocol (MP) to the Vienna Convention on Ozone Depleting Substances, can lead to efficient and pragmatic solutions to the governance of CC and judicious application of trade policies. This could obviate the potential conflicts in relation to various existing stipulations under several of the WTO rules and regulations arising from its covered Agreements (for example, the GATT, Subsidies and Countervailing Measures, Technical Barriers to Trade, and a few others) that can arise from the application of trade policies for improved governance of CC.
9. *The compliance mechanisms in the UNFCCC and the KP have been too weak. Article 14 of the UNFCCC calls the Parties to "seek a settlement of the dispute through negotiation or any peaceful means of their own choice". Parties may recognize "as compulsory ipso facto" submission of the dispute to the International Court of Justice (ICJ) or to arbitration in accordance to procedures to be adopted by the Conference of the Parties. However, several major nations are not parties to the ICJ. The compliance and dispute resolution mechanisms under the UNFCCC system need urgent strengthening.*

10. *Article 4 of the UNFCCC mandates, somewhat similar to the effective provisions under a separate Montreal Protocol under the Vienna Convention, technology transfer to developing countries for climate change governance. This provision should be availed in conjunction with the new Green Climate Fund to the promotion of relevant trade policies for CCG.*
11. *Modification of the WTO charter Articles is urgently required. The GATT Article XX (b) needs to be amended to read: “necessary to protect the environment, human, animal or plant life or health; and to contribute to climate change governance.” The GATS, now one of the ‘covered agreements’ under the WTO Agreement, includes Article XIV that is nearly identical to GATT Article XX. It is meaningful to revise both with the following important reforms: Include ‘environment and enable improved climate change governance’, in addition to the usual set of items in GATT XX (b) and GATS XIV (b); and, replace ‘exhaustible resources’ with ‘non-renewable resources’ in order to include a larger set of resources and under less severe extinction conditions.*
12. *In regard to policies governing Environmental Goods and Services under the WTO, it may be desirable (in the absence of a meaningful and time-bound agreement) to enter into plurilateral agreements, akin to the one on Government Procurement within the WTO framework; it may be easier to form coalitions of similarly located (policy space wise) nations (for example the EU, Japan, and the US) to enter into agreements on select issues and go on revising the membership and their coverage of issues for mutual benefits.*
13. *In the post-Kyoto framework, it is essential that carbon emission reduction targets, policies and guidelines incorporate embedded emissions of international trade along with production-based emissions as a total package. In the absence of such an approach, as the experience with the KP shows, there are ample loopholes and a country’s participation in such an agreement makes relatively very moderate effect in the reduction of carbon emissions and it is futile to argue whether or not a country is in compliance with the stated KP targets.*
14. *At a time when majority of the economies of the world are undergoing various financial, economic, and environmental stress factors, and when the global environment is posing increasing catastrophic changes due to climate change, there is little room for complacency and non-cooperation among and within nations. A regular and more interactive forum such as the Group-of-Twenty (G-20) countries should take greater initiatives and stewardship in addressing these challenges; these are manageable only if addressed with greater efforts and with improved quality of inputs. Green jobs, environment and climate change governance, reduction of poverty, acceleration of international trade and sustainable development can and must be seen as integral packages. Countries at varying levels of development need to devise closer cooperation measures (including confidence building measures) so that genuine attempts to adopt win-win (or win-win-win-win) strategies are not bogged down in procedural or other misinterpretations.*

*Broad-based G-20 panels should gear up to assess the emerging issues and proposals as a winning scenario for all stakeholders; these should actively interact with the WTO and the UNFCCC, among other international bodies to fulfill desirable objectives with meaningful, pragmatic and time-bound development of relevant instruments.*

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