

Global Challenges at the Intersection of Trade, Energy and the Environment

Conference Draft, 21st October 2009

New Rules for the Environmental Imperative: Considerations for the Energy Sector and Interaction with WTO Rules¹

Ana Maria Kleymeyer
Senior Advisor
International Centre for Trade and Sustainable Development

¹ Background paper prepared for **Panel 1: Setting the Stage: The Landscape of Existing International Cooperation**, of the Conference *Global Challenges at the Intersection of Trade, Energy and the Environment* 22nd and 23rd October 2009, Organised by the Centre for Trade and Economic Integration (CTEI) at the Graduate Institute of International and Development Studies, Geneva, in collaboration with the World Trade Organization.

**New Rules for the Environmental Imperative:
Considerations for the Energy Sector and Interaction with WTO Rules**

Ana Maria Kleymeyer
Senior Advisor
International Centre for Trade and Sustainable Development

1. The presentation and note address the international context and rules relating to climate change – the dominating environmental issue of the moment – with a focus on those that relate to trade and the energy sector. I will lay out the general nature and array of options for rules under debate in the ongoing global negotiations for a new agreement to address climate change. Considering the singularity of the international climate agreements in their scope and approaches to implementation, the note will attempt to sketch the context for these agreements and their evolution. It will further explore the interaction with other international related agreements, in particular of trade rules within and beyond the WTO.

Introduction – Brief History of Environmental Agreements

2. Following decades of debates and growing scientific evidence, countries have forged a broad array of multilateral agreements in response to many of the world’s environmental problems. These agreements cover issues as broad and varied as biodiversity, desertification, ozone depletion, endangered species, hazardous waste, and the use of transboundary waters, among others. Most are “living” treaties that are subject to continued negotiation in order to strengthen and guarantee their effectiveness. They have had differing degrees of success in reaching their objectives, due primarily to the structuring of instruments, institutional arrangements, and available financial support for their implementation, as well as to their breadth of scope. Despite their substantive diversity, they have at least one thing in common – their anthropogenic causes. This common thread ties each, in its own way, to the human activities that affect them and, consequently, to the regulation of human behavior necessary to prevent further harm.

3. The Rio Earth Summit in 1992 launched three seminal environmental treaties: The United Nations Framework Climate Change Convention (UNFCCC), the UN Convention on Biodiversity (CBD), and the Convention to Combat Desertification (CCD). The UNFCCC emerged in response to the First Assessment Report, published in 1989, of the Intergovernmental Panel on Climate Change (IPCC), the first intergovernmental scientific body tasked with evaluating the risks posed by climate change and their human causes.¹

4. Recent years have witnessed a steep rise in global concern with climate change as a result, primarily, of additional scientific information regarding its causes and projecting its impacts. From early controversy surrounding the science, the 2007 IPCC Fourth Assessment Report has since concluded that evidence of climate change is now “unequivocal”.² Political leaders characterize the climate crisis as one the world’s greatest challenges and as “the preeminent geopolitical and economic issue of our era”, while leading economists consider it the “greatest market failure the world has ever seen”.³

Basic background on the Climate Agreements

5. The United Nations Framework Convention on Climate Change (UNFCCC) is the foundational treaty addressing climate change.⁴ Its primary objective is to stabilize atmospheric concentrations of greenhouse gases (GHGs) in order to avoid “dangerous anthropogenic interference” with the climate system. This objective has three guiding conditions. Global action to address climate change should: 1. be achieved

New Rules for the Environmental Imperative: Considerations for the Energy Sector and Interaction with WTO Rules Ana Maria Kleymeyer

within a time frame sufficient to allow ecosystems to adapt naturally to climate change; 2. ensure that food production is not threatened; and 3. enable development to proceed in a sustainable manner.

6. The UNFCCC provides the primary overarching framework for international cooperation on climate change. Guided by its ultimate objective and principles, the Convention establishes commitments for parties in order to achieve emissions reductions and support adaptation to climate change.

7. In broad brushstrokes, the Convention holds that all countries shall contribute to addressing climate change; that developed countries shall take the lead and provide finance and technology to assist developing countries in their efforts to mitigate and adapt to climate change; and that developing countries have common but differentiated responsibilities based on their national circumstances.

8. The most noteworthy guiding principles of the Convention include: equity, full consideration of specific needs and special circumstances of developing country parties, especially the most vulnerable; acceptance that lack of full scientific certainty is not a basis to postpone action; the importance of cost-effectiveness of policies and measures; the right of parties to pursue their sustainable development; and due attention to avoiding unjustifiable discrimination or disguised restrictions on trade.

9. To this day, the Convention is considered by most of its members to represent an equitable framing of the problem and its global solutions, as it distinguishes between the responsibilities of developed and developing country parties. All parties are required to contribute to climate mitigation. But developed countries must do more, both in terms of mitigation and support for developing countries mitigation and adaptation efforts through provision of financing and technology. Developing countries, “in accordance with their common but differentiated responsibilities and respective capabilities” have obligations that are tempered by their national circumstances resulting in a lesser degree of historic and economic responsibility. This issue, as straightforward as it may seem, is the fulcrum of much controversy in climate debates. The rapid increase of emissions from the largest economies among the developing countries, coupled with a clear message from the IPCC that developing countries must also curb their emissions in order to avoid tipping points for abrupt climate change, beg the question of how much and how developing countries will mitigate while, as granted by the Convention, continuing to sustainably develop. As developing countries’ development objectives are considered in the determination of their contribution to global efforts, parties struggle over how to articulate new solutions that maximize efforts as they somehow allocate political and, especially, financial responsibility.

10. As regards principles related to policies and measures and regard for trade impacts, these have gained attention in recent discussions at the national and international levels as countries explore new additional approaches to mitigate nationally. This issue is further discussed below.

11. The UNFCCC has several institutions that addressing the array of issues related to climate change, including its Subsidiary Body for Scientific and Technical Assessment (SBSTA) and its Subsidiary Body for Implementation (SBI). The “SB”s cover issues from finance to forests and craft decisions for approval at the annual Conference of the Parties (COP).

12. The Convention also establishes the Annexes that define groups of countries based on economic development factors, as follows:

- a. Annex I countries are industrialized nations, including most countries in the Organisation of Economic Cooperation and Development (OECD) plus Eastern and Central Europe and Russia, also known as Economies in Transition (EIT)
- b. “Non-Annex I” countries include all developing nations

New Rules for the Environmental Imperative:
Considerations for the Energy Sector and Interaction with WTO Rules Ana Maria Kleymeyer

- c. Annex II countries are those OECD countries have financial, technology and capacity building commitments for support to developing countries under the Convention, above and beyond the EITs.
13. The UNFCCC is a framework to *encourage* global action on climate change. It does not, however, set out specific measures, targets, or mechanisms to do so. Within three years of the Convention's entry into force, therefore, nations adopted the Kyoto Protocol (KP) to provide greater specificity on emissions reduction *commitments* for industrialized nations (Annex I Parties).⁵ The Protocol entered into force in 2005.
14. Under the KP, Annex I Parties agreed to an average of 5.2% overall reduction, within the first commitment period (2008-2012), of GHGs below 1990 levels. Current scientific calculations indicate that this target is far below what is necessary to stabilize the climate system.
15. The Kyoto Protocol also introduced three market-based "flexibility mechanisms", which generated the current multi-billion dollar carbon market.⁶ Although countries with commitments under the KP must meet their targets primarily through national measures, the three mechanisms (Clean Development Mechanism, Joint Implementation, and Emissions Trading Schemes) allow those countries to purchase reductions in developing countries and countries in transitions, or to establish carbon-trading schemes.⁷ The mechanisms generate carbon credits (also know as carbon "offsets") that may be purchased by Annex I countries seeking to fulfill their commitments. Notably, projects based on reduced emissions from the energy sector make up a significant portion of these markets.
16. The rules, institutions, and instruments that currently exist to address climate change suffer from shortcomings in implementation due in part to the lack of financing and other supporting mechanisms, lack of enforceability, limited scope and the relatively few years the agreements have been in force. Current negotiations to strengthen the existing treaties and develop a new complementary agreement are underway.

Ongoing Negotiations

17. In 2005, parties initiated two sets of discussions to address future approaches to climate change. The first was the Ad-hoc Working Group on the Kyoto Protocol (AWG-KP) – a negotiating process mandated within the Protocol itself to consider further commitments for the future of the KP following the close of the first commitment period.
18. Parties to the KP are engaged in negotiations for a second commitment period for the Protocol.⁸ These negotiations, under the Ad-Hoc Working Group on Further Commitments for Annex I Parties to the Kyoto Protocol (AWG-KP), address mitigation potentials and ranges, means to achieve mitigation objectives and consideration of further commitments by Annex I Parties. The negotiations have made negligible progress. The group expects conclusions on these issues at the 15th Conference of the Parties in Copenhagen this December. Notably, the past few meetings have been marred with tension, with the spokesperson for the Group of 77 and China walking out in the middle of one recent negotiation in protest of what is perceived as attempts by developed countries to terminate the Protocol.
19. A second discussion called the Convention "Dialogue" was established to informally address long-term global cooperation on climate change. The end of the Dialogue in December 2008 coincided with a new decision called the "Bali Action Plan," which established the Ad-hoc Working Group on Long-term Cooperative Action (AWG-LCA). This working group was tasked with crafting a new global agreement for climate change at the COP in Copenhagen.

**New Rules for the Environmental Imperative:
 Considerations for the Energy Sector and Interaction with WTO Rules** Ana Maria Kleymeyer

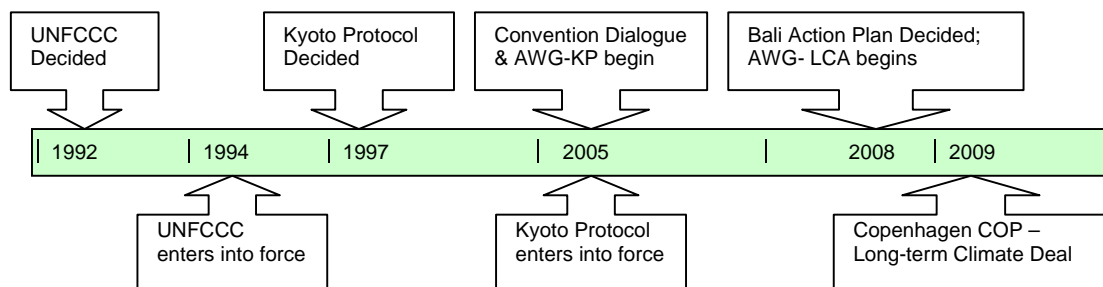
20. The main objective of the Bali Action Plan and the agreement it eventually generates is to enhance the implementation of the Convention. The driving force behind the decision for a new agreement was the release of the IPCC Fourth Assessment Report, which brought into clear focus the need to bring the United States and developing countries on board in a more meaningful way, since the Kyoto Protocol alone would not suffice.

21. Negotiations under the AWG-LCA address five elements of the Bali Action Plan (BAP):
- A shared vision for long-term cooperative action, including a long-term global goal;
 - Enhanced national/international action on mitigation;
 - Enhanced action on adaptation;
 - Enhanced action on technology development and transfer to support action on mitigation and adaptation; and
 - Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation.

22. The form of the future agreement is yet undefined. It could be anything from a simple “decision” to a full-blown treaty. This depends primarily on political as well as on negotiators’ ability to narrow down the current draft text.

23. The AWG-LCA and the AWG-KP are scheduled to conclude in Copenhagen this December. The question remains whether these two tracks – like parallel lines – will remain as two separate but complementary processes, or will converge in Copenhagen as a single new international agreement. This simple question of form is at the heart of one of the most heated debates in the negotiations. Either way, the real challenge is to put in place the operational mechanisms – on finance, technology, adaptation and various approaches to mitigation – required to implement legally binding obligations that have been in place for 15 years but that have remained largely unfulfilled.

24. Recent statements by global leaders at the United Nations Climate Change Summit lead some to believe that, rather than a comprehensive and equitable global agreement, Copenhagen may produce an agreement reflecting some form of “global federalism” on climate change with a global agreement that reinforces pledges countries make at the national level without creating international binding commitments. This approach reflects the U.S. position that seeks an agreement including nationally set and enforced commitments but no legally binding or internationally enforceable targets for reductions in greenhouse gas emissions. Other countries are pushing for a stronger international agreement that reflects ambitious commitments by developed countries, matched by definitive support on financing and technology to ensure that developing countries can maximize their mitigation efforts and adequately adapt to the inevitable impacts of climate change.



How can and does the Trade Regime address Climate Change?

25. Recognition of the inter-relatedness of climate change and trade within the climate negotiations exists and is growing. The multilateral, regional and bilateral trade systems affect climate change - both in terms of the sources of and the solution, because the materials and energy used to produce globally traded goods and their transport to consumers is a significant part of global GHG emissions. Climate change will also impact global trade because of shifts in agricultural production, economic restructuring, and changes in production and consumption patterns, among many other factors.⁹ The changes required in global consumption and production to mitigate climate change cannot occur without changes in global trade patterns.¹⁰ The concern among trade and climate negotiators alike is that trade-related approaches to reducing GHG emissions could impact global competitiveness, which for developing countries, in particular, poses a potential obstacle to economic development.

26. The relationship between climate and trade has, in the past, been characterized by avoidance, rather than collaboration. The climate regime has avoided the use of trade measures for implementing its objectives or as a compliance tool, unlike other environmental agreements.¹¹ At the same time, the World Trade Organization's Doha Round has raised the topic of climate change in the context of a potential action on liberalization of trade in environmental goods and services (EGS), yet little advance has been made on the issue.

27. The trade regime has an array of options to support climate mitigation and resiliency. Experts monitoring the trade-climate linkages both encourage synergies between the regimes and underline the importance of carefully defining areas of collaboration and the appropriate forum for implementation.¹² One idea under evaluation by trade experts is the possible identification of flexibilities within the Agreement on Trade-Related Aspects of Intellectual Property Rights to assist with diffusion and further development of low-carbon technologies.

28. A number of addition areas exist for further consideration and evaluation where trade rules may be relevant to measures aimed at mitigating climate change. These include: general prohibition against border quotas; general non-discrimination principle, consisting of the most-favored-nation and national treatment principles; further rules on subsidies or rules on technical regulations and standards that may not be more restrictive than necessary to fulfill a legitimate objective; specific rules for sanitary and phytosanitary measures which are relevant for agricultural products; disciplines relevant to trade in services, imposing general obligations such as most-favoured-nation treatment, as well as further obligations in sectors where individual members have undertaken specific commitments.¹³ Additionally, some evaluation has taken place exploring ways to leverage financing and investment for climate change mitigation and adaptation activities through the trade regime.¹⁴ The Committee on Technical Barriers to Trade and the Committee on Trade and Environment are two WTO forums where such issues could receive additional evaluation and consideration as countries pursue areas of mutual benefit to trade and climate regimes.

How do the Climate Rules and Negotiations address Trade?

29. As mentioned above, the climate regime has generally avoided interaction or overlapping with trade issues, except in several precise areas. Article 3.5 of the UNFCCC and Article 2.3 of the Kyoto Protocol provide that measures taken to combat climate change should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade and should be implemented so as to minimize adverse effects, including on international trade, and social, environmental and economic impacts on other parties. Article 3.5 of the Convention further emphasizes the importance of parties cooperating to promote a supportive and *open international economic system* that would lead to sustainable economic growth and development for all. In this sense, the Convention promotes goals that are compatible with those espoused by the WTO.

**New Rules for the Environmental Imperative:
Considerations for the Energy Sector and Interaction with WTO Rules** Ana Maria Kleymeyer

30. Article 3.14 of the KP asks that parties implement their commitments in a way that minimizes the adverse social, environmental and economic impacts on developing country parties. An implementing decision exists for this Article (Decision 31/CMP.1) and sets out a work plan to address the removal of subsidies and barriers to trade in this regard. Consequently, AWG-KP discussions recently addressed the benefits and potential adverse effects of various kinds of actions with a view to determining which might be warranted, and in what circumstances. They included: policies and measures leading to changes in technologies; switching from international to local sourcing; the adoption of standards; and tariffs, taxes and subsidies or other trade-distorting policies.¹⁵ In principle, this work plan and its ensuing documents, workshops and debates could lead to further decision on this issue under the KP.

31. The issue of intellectual property rights (IPR) has received continued attention on the discussion relating to transfer of technology for climate change. The current text contains a section on ‘measures to address intellectual property rights’. The text specifies a number of concrete measures intended to leverage the IP regime so as to encourage development of climate-friendly technologies and facilitate demonstration, diffusion, and transfer of climate technologies to developing countries. One such measure asked for by developing countries is compulsory licensing for patented environmental technologies. This approach, under which countries may authorise the use of a patent without the consent of the patent holder, usually on the basis of a public interest, is permissible under the WTO TRIPS Agreement and has been used by a number of countries to address a specific public health concerns.

32. Another proposal on the table is patent pooling through, for example, the creation of a Global Technology Pool that promotes access to the technology protected by the patents in the pool and ensures support on the associated know-how and trade secrets. Other suggested measures include: preferential or differential pricing for environmentally sound technologies (ESTs); innovative IPR sharing arrangements of development and deployment of ESTs; limited or reduced time patents; financial support through a technology fund that covers costs for developing countries; a possible Declaration on IPRs and ESTs for climate change; the creation of technology excellence centers in developing countries to support capacity-building; and the creation of an Executive Body on Technology functioning under the UN Climate Change Convention that would include an expert advisory group to assess barriers and make recommendations for action.

33. A topic of some controversy debate because of its explicit appearance in the in United States’ draft national climate legislation is the use of unilateral trade measures such as border tax measures (BTMs).¹⁶ The issue has generated significant discussion and controversy and will likely be a point of contention through Copenhagen. India and China, supported by dozens of developing country parties, have in turn asked for explicit reference in two areas of the draft negotiating text that would prevent developed countries from using “any form of unilateral measures including countervailing border measures, against goods and services imported from developing countries on grounds of protection and stabilization of the climate.” They specifically cite the violation of UNFCCC Article 3, among others.

34. Another area of discussion relating to trade is the issue of agriculture under “cooperative sectoral approaches and sector-specific actions”. Agriculture accounts for 14 percent of GHG emissions. The impacts of climate change to the agriculture sector are also predicted to be great. In a few cases, these impacts could be positive, but in most - as a result of increased floods, droughts, and even the expansion of biofuel production - global food security could be considerably threatened. In the negotiations, the issue unifies interests across developed and developing country lines, but also heightens sensitivities about potential trade impacts. A short paragraph on the issue stresses development priorities but also emphasizes the need to

ensure activities in the sector do not “result in barriers to or distortion of the international trade system of goods and products of the agricultural sector” – a clear reference to potential sectoral targets, carbon labeling, carbon ‘footprinting’, BTMs or other national approaches that could impact global trade competitiveness.

Energy and Climate in the Convention, Protocol, and beyond

35. The energy sector, including energy use and production, accounts for over 50% of all global greenhouse gases (GHGs).¹⁷ Technological and policy advances in this sector are therefore the focus of many countries’ climate strategies. Additional international rules and mechanisms, both within and beyond the UNFCCC, are critical for maximizing the potential reductions of this sector and for accessing necessary financing to make changes across the globe. Current instruments are limited in their scope and applicability.

36. Notably, many countries are forging ahead with emissions-reducing approaches in their energy sectors, building confidence that much more may be possible through further national and international measures. The United States, which signed but never ratified the Kyoto Protocol, has shown a 9% decrease in emissions over the last 2 years, due in large part to changes in the energy sector responding to escalating oil prices and the global crisis. This shift prompted one climate expert to state that the US could “far surpass” its 15-20% mid-term reduction targets under debate in its new national climate legislation.¹⁸ China, despite its continued construction of a new coal-fired energy plants, last year produced 300,000 megawatts of wind-powered energy and by next year will blow past the US to become the world’s number one producer of wind energy. India is also likely to overcome its coal addiction with the rapid expansion of extensive and highly efficient solar thermal power plants.

37. The financial and investment needs to address climate change, particularly as regards energy production and use, are astronomical. The International Energy Agency estimates that limiting GHG concentrations to 450 ppm CO₂eq requires US\$550 billion to be invested in clean energy from now to 2030. Despite efforts under the UNFCCC processes to harness public finance and develop public policies to raise more, most financial flows to this sector will need to come from leveraging the private sector. The good news is there appears to be an interest and strong inclinations as in 2007, the private sector invested nearly US\$150 billion of new money in clean energy technologies in response to these new policy and financial incentives. At the same time, there is an urgent need for new market-based instruments and innovative financial mechanisms to attract and drive direct investment towards lower-carbon and climate-resilient technologies and practices.

38. The UNFCCC preamble underlines the need of developing countries to increase their energy consumption in order to achieve sustainable development their energy consumption will need to grow. It also emphasizes the possibilities for achieving greater energy efficiency especially through the application of technologies on economically and socially beneficial terms.¹⁹

39. UNFCCC Article 4.1(c) underlines the need for all parties to promote and cooperate on technology development, diffusion, and transfer in all sectors, including energy, transport, industry, agriculture, forestry and waste. Articles 4.8(h) and 4.10 of the Convention provide special consideration for the needs of countries whose economies are highly dependent on income generated from the production, processing and export, and/or on consumption of fossil fuels and associated energy-intensive products. Consideration, in this sense, means financing, technology, and other support that will minimize adverse impacts on these countries from measures taken to mitigate climate change.

40. The Kyoto Protocol lists in its Annex A the sources and economic sectors that contribute to greenhouse gas emissions and where action on mitigation is recommended. Notably, the energy sector can be

New Rules for the Environmental Imperative:
Considerations for the Energy Sector and Interaction with WTO Rules Ana Maria Kleymeyer

broadly or narrowly interpreted depending on whether the action under consideration relates to energy production, consumption, and/or efficiency. For example, separate sector categories exist for transport, manufacturing industries and construction, etc.

41. Under the Kyoto Protocol, Article 2(a) requires Annex 1 countries, in pursuing their quantified limitation reductions, to implement or elaborate policies and measures that will enhance energy efficiency in relevant sectors of the national economy. Notably, this Article allows parties to do so taking into consideration their particular national circumstances – a flexibility clause that allows for ample interpretation of this provision.

42. Article 10 requires all countries to formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change and measures to facilitate adequate adaptation to climate change, with special reference to the energy sector.

43. It is relevant to note that while Annex 1 Parties have reporting requirements under the Protocol and these reports are made public, the Protocol has limited compliance enforcement (no sanctions, limited implementation review, or other such mechanisms) in the event a country does not carry out their commitments. In the event of failure to reach their Kyoto *targets*, however, the consequences are a 50% additional to their target in the second commitment period. There is a compliance committee that meets regularly and evaluates specific cases and makes recommendations to the COP.

44. The AWG-LCA draft text that is intended as the basis for an agreement in Copenhagen reflects proposals by parties but does not yet reflect any consensus. Numerous references are made in the text to enhancing implementation of the Convention specifically within the energy sector. These proposals address the four pillars of the BAP. Examples of current proposals on the table include: Cooperative actions on energy research and development, national actions to enhance energy efficiency and development of renewable energies, a global fund to support a global-feed-in-tariff programme, renewable energy targets, strategies and plans, and a number of parties have suggested establishing national or international energy efficiency targets. The text includes language on initiatives, facilities, partnerships, and new financing for research and development for energy production and efficiency, including a proposed “renewable energy an energy efficiency bond mechanism to provide interest-free loans for financing development of these technologies. Then there is the delicate issue of adaptation support to countries whose economies are highly dependent on income generated from fossil fuel and associated energy-intensive products. It is most likely that a mention to the energy sector appear in the Copenhagen agreement, while parties postpone any details relating to specific treatment of mitigation in energy production and consumption to a subsequent negotiating process.

45. As global negotiations continue to struggle forward and countries sculpt their national policies, the task may seem both daunting and insurmountable. Glimmers of optimism and ingenuity shine through the nebulous discussions and skepticism, and shed some light on the path forward. One such spark that attempts to emphasize the message that climate change does not have to be a zero sum game insists:

The world does not need to choose between averting climate change and promoting growth and development. Changes in energy technologies and in the structure of economies have created opportunities to decouple growth from greenhouse gas emissions.²⁰

46. Copenhagen may or may not produce an international agreement that has the political strength, financial means, and institutional capability to tackle climate change at the global level. The significant role of the trade regime and the energy sector in its causes and potential solutions to the climate crisis is a critical area

New Rules for the Environmental Imperative:
Considerations for the Energy Sector and Interaction with WTO Rules **Ana Maria Kleymeyer**

for focus in the international discussions and also at the national level. The current rules and instruments for addressing climate change through trade and the energy sector provide some basis for global cooperation, but much more is needed – particularly coherent and cooperative support from global forums such as the WTO and the International Energy Agency. Furthermore, national and regional initiatives are a steady way forward. Countries and companies should not slow these efforts while they wait for a global agreement to solidify. The financial, environmental and social benefits of early and continued action underline this imperative.

New Rules for the Environmental Imperative: Considerations for the Energy Sector and Interaction with WTO Rules Ana Maria Kleymeyer

- ¹ IPCC First Assessment Report 1989, available at http://www.ipcc.ch/publications_and_data/publications_and_data_reports.htm#1. The IPCC was created by the World Meteorological Organization (WMO) and the United Nations Environmental Program (UNEP).
- ² Intergovernmental Panel on Climate Change, *Fourth Assessment Report, Climate Change 2007*.
- ³ Ban Ki-moon, UN Secretary General, Opening Statement at the United Nations Climate Change Summit, 23 September 2009; Energy and Climate Declaration, Major Economies Forum at the Group of Eight Summit, L'Aquila, Italy, July 2009; Stern Review: The Economics of Climate Change, Summary of Conclusions, at page viii, available at: http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm
- ⁴ United Nations Framework Convention on Climate Change, entry into force 1994, available at <http://unfccc.int/resource/docs/convkp/conveng.pdf>
- ⁵ See the Kyoto Protocol to the United Nations Convention on Climate Change, available at <http://unfccc.int/resource/docs/convkp/kpeng.pdf>. The parties to the Kyoto Protocol also formally adopted the "rulebook" of the 1997 Kyoto Protocol, the so-called 'Marrakesh accords', which sets the framework for implementation of the Protocol.
- ⁶ The global carbon market was worth around \$118 billion in 2008, rising 84 percent from the previous year due to higher trading volumes and prices. Data from New Carbon Finance.
- ⁷ For more information on the Clean Development Mechanism (CDM), Joint Implementation (JI) and Emissions Trading Schemes (ETS), see http://unfccc.int/kyoto_protocol/mechanisms/items/1673.php
- ⁸ Notably, the current multilateral negotiations that will culminate in Copenhagen are often referred to in the media as the "Post-Kyoto" discussions, implying that the Kyoto Protocol may expire after its first period. The reference to "Post-Kyoto" is considered erroneous by many parties, as discussions on the second commitment period are underway. Several parties have expressed their desire to fuse the KP with the new agreement, thus phasing it out, while other parties strongly oppose this option.
- ⁹ L. Weischer, *et al* "Climate and Trade Policies in a Post-2012 World" UNEP/adam, August 2009.
- ¹⁰ *Ibid*, pg 2.
- ¹¹ Two examples are The Montreal Protocol for the Protection of the Ozone Layer and the Basel Convention on the Control of Transboundary Movements of Waste and their Disposal.
- ¹² F. Zelli, "Searching for Docking Points: Prospects for Issue-Linking between the World Trade Organization and the United Nations Climate Regime" UNEP/adam, 2009.
- ¹³ See Climate change and the potential relevance of WTO rules, www.wto.org
- ¹⁴ See UNFCCC Investment and financial flows relevant to the development of an effective and appropriate international response to Climate Change at http://unfccc.int/cooperation_and_support/financial_mechanism/items/4053.php.
- ¹⁵ The Climate Secretariat was tasked with producing an Information note that addresses carbon taxes and levies, subsidies, border carbon tax adjustments, cap-and-trade schemes, standards and labeling, among others. The information note provides a good analysis of potential impacts on developing countries of such measures taken by developed countries. The paper is available at [FCCC/KP/AWG/2009/INF.3](http://unfccc.int/kyoto_protocol/mechanisms/items/1673.php)
- ¹⁶ "It is the sense of the Senate that this Act will contain a trade title that will include a border measure that is consistent with our international obligations and designed to work in conjunction with provisions that allocate allowances to energy-intensive and trade-exposed industries." *Clean Energy Jobs and American Power Act*, Draft introduced by Senators John Kerry and Barbara Boxer, September 20, 2009, Sec. 756. International Trade.
- ¹⁷ Although figures vary slightly from source to source, this breaks down roughly to 26% for energy supply, 13% for transport, 8% for commercial and private building, and 19% for industry. The latter four categories all comprise energy use emissions, leading to the sum of over 50% of all GHG emissions.
- ¹⁸ L. Brown, "On Energy We're Finally Walking the Walk," *Washington Post*, 20 Sept 2009.
- ¹⁹ UNFCCC Preamble.
- ²⁰ The Stern Review: The Economics of Climate Change, at p. viii.

The Graduate Institute's **Centre for Trade and Economic Integration** fosters world-class multidisciplinary scholarship aimed at developing solutions to problems facing the international trade system and economic integration more generally. It works in association with public sector and private sector actors, giving special prominence to Geneva-based International Organisations such as the WTO and UNCTAD. The Centre also bridges gaps between the scholarly and policymaking communities through outreach and training activities in Geneva. Its goal is to provide an innovative research basis for solutions that address the medium-term challenges facing the world trade system broadly defined and economic integration more generally.