Fostering Low Carbon Growth: The Case for a Sustainable Energy Trade Agreement

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The paper builds mostly on ICTSD work undertaken since 2008, including a model sustainable energy agreement discussed and presented in the contexts of the WTO, the UNFCCC, the Global Green Growth Forum in Copenhagen, October 2011, and the World Economic Forum's Global Agenda Councils initiative, in response to its proposed 2010 SEFTA.

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ICTSD welcomes feedback on this document. These can be forwarded to Mahesh Sugathan, smahesh@ictsd.ch

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EXECUTIVE BRIEF[1]

The Climate Change Mitigation Challenge and the Role of Sustainable Energy

A much faster and more effective scale-up of innovation, use and diffusion of non-fossil fuel energy technologies is an imperative of the international community. The challenge to de-carbonise production and economic activity comes at a time of rapid expansion in energy demand, and in a context in which half of the world's population currently has no access to modern forms of energy. Globally, as the Intergovernmental Panel on Climate Change (IPCC) has noted, energy supply is the largest single source of greenhouse gas (GHG) emissions.

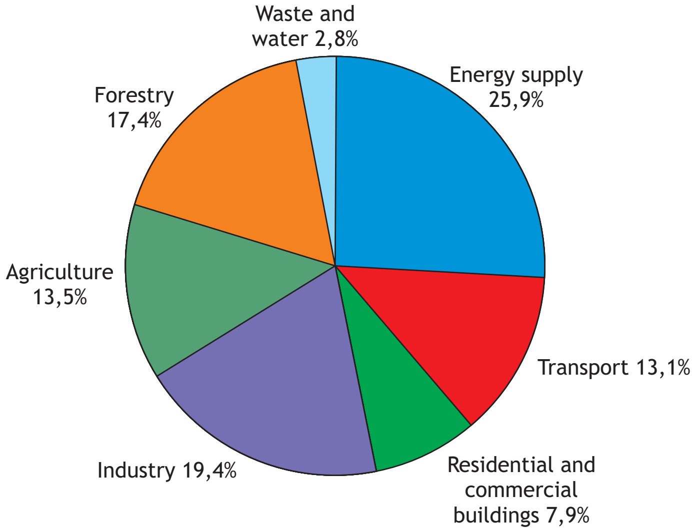
The transition to a low-carbon economy will require a greater switch to sustainable energy, as conventional fossil fuel-based energy use is a major driver of GHG emissions. It will also entail the deployment of energy efficiency measures in both conventional power generation and end-use sectors, such as buildings, industry, and transport, in addition to the deployment of cleaner, low-carbon transport fuels and technologies. Such measures will also contribute to reducing countries' dependence on certain types of fossil fuels whose supplies may be unreliable or diminishing.

In 2004 conventional energy supply and its related use in the buildings, industry and transport sectors were responsible for about 70 percent of global GHG emissions. (See Figure 1).[2]

1 *An executive brief of the joint initiative on promotion of sustainable energy, a project of the Global Green Growth Institute, ICTSD, and the Peterson Institute for International Economics.*

2 *Climate Change 2007: Mitigation; Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.*

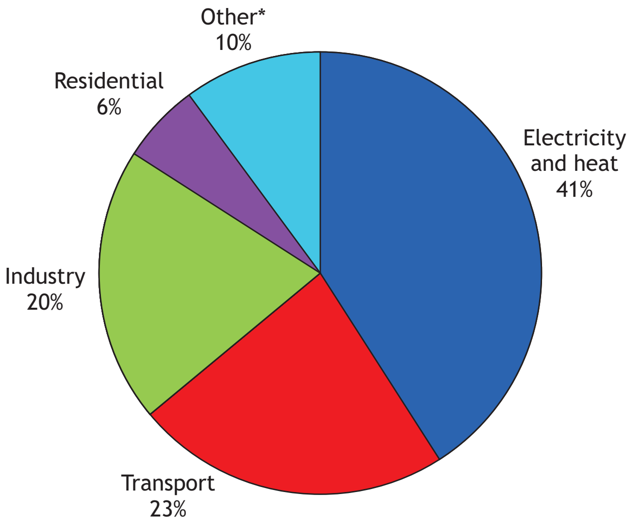
Figure 1: Global Greenhouse Gas Emissions by sector in 2004



Source: Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

More recent estimates from the International Energy Agency (IEA) placed such emissions at a record high of 30.6 Gigatonnes (Gt.) in 2010 alone, making the targets set by the international community to limit climate temperature rise to a maximum of 2 degrees centigrade (36 degrees Fahrenheit) extremely difficult to meet. According to the IEA, the combined share of electricity and heat generation together with transport alone represented nearly two-thirds of global emissions in 2009, as illustrated in Figure 2 below.

Figure 2: World CO_2 Emissions by Sector in 2009

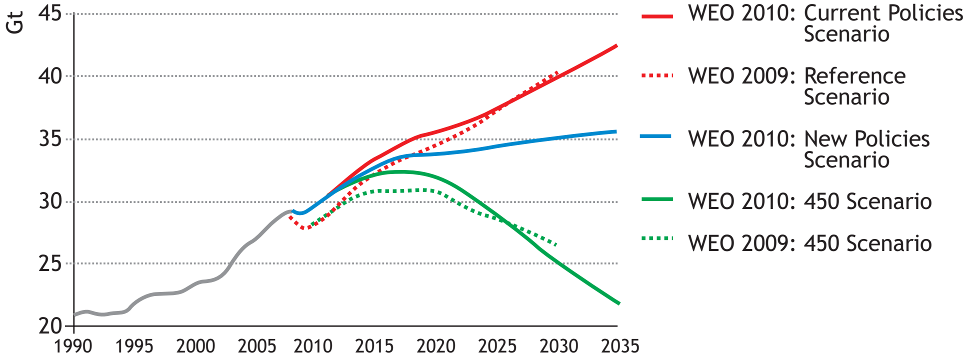


**Other sectors include commercial/public services, agriculture/forestry, fishing, energy industries (other than that of electricity and heat generation) and other unspecified emissions.*

Source: International Energy Agency (IEA), CO_2 Emissions from Fuel Combustion: Highlights, 2011.

Indeed, for the (2°C) "pathway to be achieved, global energy-related emissions in 2020 must not be greater than 32 Gt. This means that over the next ten years, emissions must rise less in total than they did between 2009 and 2010," the IEA notes. Non-clean energy sources - i.e. fossil fuels - currently account for about 80 percent of emissions worldwide, and existing infrastructure and projects in construction are estimated to already lock-in to 2020 approximately 20 percent of those emissions.[3] The IEA's 2010 World Energy Outlook sets out the 450 Scenario, an energy pathway consistent with achieving this goal, based on the emissions targets countries have agreed to reach by 2020. The emissions track under this scenario is compared with the tracks under two other scenarios - the *Current Policies Scenario* and *New Policies Scenario* as illustrated in the figure below.[4]

Figure 3: World energy-related CO_2 Emissions by scenario



Source: International Energy Agency (IEA), World Energy Outlook 2010.

3 *IEA; 30 May 2011; Prospect of Limiting the Global Increase in Temperature to 2°C is Getting Bleaker, http://www.iea.org/index_info.asp?id=1959*

4 *Under the Current Policies Scenario no change in policies is assumed. This scenario, previously called the Reference Scenario, is intended to serve as a baseline against which the impact of new policies can be assessed. It takes into account those measures that governments had formally adopted by the middle of 2010 in response to and in pursuit of energy and environmental policies, but takes no account of any future changes in government policies and does not include measures to meet any energy or climate policy targets or commitments that have not yet been adopted or fully implemented. The WEO 2010 cautions that the Current Policies Scenario should in no sense be considered a forecast as it is certain that energy and climate policies in many — if not most — countries will change, possibly in the way assumed in the New Policies Scenario. In the Current Policies Scenario it is also assumed that fossil-fuel subsidies are completely phased out in countries that already have policies in place to do so.*

The New Policies Scenario takes account of the broad policy commitments that have already been announced and assumes cautious implementation of national pledges to reduce GHG emissions by 2020 (communicated formally under the Copenhagen Accord) and to reform fossil-fuel subsidies. It is assumed that fossil-fuel subsidies are completely phased out in all net-importing regions by 2020 (at the latest) and in net-exporting regions where specific policies have already been announced.

The 450 PPM emissions scenario reflects an assumption of vigorous policy action to implement fully the Copenhagen Accord, including achieving the maximum emissions reductions pledged, relatively limited use of emissions-reduction credits and no use of banked allowances from earlier periods. Thus, the policies assumed are collectively consistent with the high-end of the range of commitments, resulting in a lower emissions path than in the New Policies Scenario. It assumes fossil-fuel subsidies are completely phased out in all net-importing regions by 2020 (at the latest) and in all net-exporting regions by 2035 (at the latest), except the Middle East where it is assumed that the average subsidisation rate declines to 20% by 2035.

The geographical distribution of GHG emissions is highly heterogeneous, as is energy consumption. While OECD countries only host a fifth of the world's population, 40 percent of emissions continue to be generated in these countries, and 40 percent of energy demand is located there. Meanwhile, 75 percent of the growth in emissions in 2010 came from the developing world that is experiencing long-term economic growth trends with a consequent rise in energy demand.

The UN has declared 2012 as the International Year of Sustainable Energy for All, and its Advisory Group on Energy and Climate Change - composed of major energy companies and UN agencies - has recommended universal access and a 40 percent increase in energy efficiency in the next 20 years. If these recommendations are implemented, this could reduce global energy intensity by 2.5 percent per year, approximately double the historical rate.

Cutting energy-related emissions in half by 2050 would require deep de-carbonisation of the power sector. To maintain the same level of output, fossil fuel use would need to be offset by sustainable energy; the largest increase, according to the World Bank's 2010 World Development Report, would have to come from renewable energy sources.

The World Bank report illustrates the enormous magnitude of the effort to increase the share of low-carbon energy to 30-40 percent by 2050 from present levels of 13 percent. This would imply, over the next 40 years, deploying annually an additional 17000 wind-turbines (producing 4 megawatts [MW] each, hence 68000 MW annually); 215 million square metres of solar photovoltaic panels, 80 concentrated solar power plants (producing 250 MW each); and 32 nuclear plants (producing 1000 MW each).[5] As an example of comparison for wind, the biggest capacity addition to have taken place in wind energy since 1995 happened during 2008-2009 when close to 40000 MW was added, according to the World Wind Energy Association.[6]

A positive development, however, has taken place in the area of financial new investment in renewable energy, which has been growing steadily. In 2008 and 2009 renewables constituted well over half of the investments in new energy generation and in 2010 developing countries overtook developed countries for the first time.[7] A number of studies have also highlighted the greater job-creating potential of sustainable energy as compared to the fossil-fuel sector.[8]

Sustainable energy, for the purposes of this paper, includes **solar, wind, small-scale hydro and biomass-related fuels, technologies and services,** but could broadly encompass any energy source that has the potential to mitigate GHG emissions. Sustainable energy usually has a high relative cost compared to conventional fossil fuel energy. This disparity stems largely from the fact that there is no proper pricing mechanism for carbon or the negative environmental externalities associated with fossil fuel use. A further burden on sustainable energy is imposed through subsidies for fossil fuels provided by governments worldwide.

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5 *World Bank; 2010; World Development Report.*

6 *World Wind Energy Association; 2011; World Wind Energy Report, http://www.wwindea.org*

7 *United Nations Environment Programme (UNEP) and Bloomberg New Energy Finance; 2010; Global Trends in Renewable Energy Investment 2010: Analysis of Trends and Issues in the Financing of Renewable Energy and UNEP and Bloomberg New Energy Finance; 2011; Global Trends in Renewable Energy Investment 2011: Analysis of Trends and Issues in the Financing of Renewable Energy.*

8 *Kammen, et al.; 2004; Putting Renewables to Work: How Many Jobs Can the Clean Energy Industry Generate? Renewable and Appropriate Energy Laboratory (RAEL Report), University of California, Berkeley.*

Importance of Domestic Sustainable Energy Policies

Domestic policies aimed at encouraging the development of sustainable energy usually focus on regulatory measures such as renewable portfolio standards or on fiscal incentives such as tax-credits. Such measures reduce both investment and production-related costs for renewable energy producers. Domestic sustainable energy promotion policies also work to increase consumer demand, either through a system of incentives such as tax reduction on solar home equipment or regulations such as mandatory purchase requirements. A similar set of policies can also influence the supply of, and demand for, sustainable transport fuels and technologies.

Reducing sustainable energy costs while balancing multiple objectives can be challenging.

For a sustainable energy power plant, the upfront technology and capital equipment costs, coupled with the costs for support services constitute a major part of the overall expense burden. While many governments seek to bring down the costs of sustainable power, they may simultaneously try to meet other policy objectives. These objectives include creating a manufacturing base for sustainable energy equipment and generating local jobs.

While synergies are possible, it can become difficult for policymakers to balance these often-conflicting objectives. It may be difficult, for instance, to seek sustainable power production at the lowest cost possible when power producers are facing import restrictions on technologies and equipment of the quality and prices they desire.

Optimising Supply Chains in Sustainable Energy Goods and Services: The Domestic Energy and Trade Policy Interface

Global manufacturing and services companies operate through a complex network of supply chains. These chains allow companies to optimise production costs by sourcing components and services from their most efficient production/supply locations. Hence, policies that prevent or constrain supply chain optimisation increase costs, and consequently prices, for sustainable energy goods and services (SEGS).

Domestic sustainable energy as well as trade policies can directly or indirectly facilitate or constrain trade in SEGS and consequently help or hinder supply-chain optimisation.

Barriers to supply chain optimisation can be triggered by both sustainable energy- and trade related policies. Some of these measures (such as tariffs) may be *de-jure* trade restrictive, while others may have a *de-facto* trade restrictive impact in the way that they are designed or implemented. On the other hand, many broader policies supportive of sustainable energy, such as the removal of fossil-fuel subsidies, may also have a positive impact on trade in SEGS.

Non-tariff trade-related barriers to SEGS are diverse and may range from domestic support measures for biofuels to export restrictions of critical raw materials and various modes of services supply. Local content requirements are one policy that many countries use to create domestic jobs in sustainable energy manufacturing, specifically by mandating the use of locally-made components or technologies in sustainable energy projects. Countries may also link incentives or subsidies to power producers to the use of local equipment. Such measures have already triggered trade disputes at the World Trade Organization (WTO) and, if their use spreads, may generate further trade frictions in the future. Other domestic sustainable energy policies may have no foreseeable impact on trade. Table 1 below illustrates a number of both domestic sustainable energy-, as well as trade-related policies and classifies them according to their manner of impact on trade.

Table 1: Trade Impacts of Domestic Sustainable Energy and Trade Policies

Policies with a Direct Trade Impact
Tariffs: Customs-duty Concessions and Exemptions
Export Restrictions and Export-Taxes
Market Access for Sustainable Energy Service Providers
Measures Affecting National Treatment for Sustainable Energy Service Providers
Trade-Facilitation and Transit Measures
Local-content Requirements (LCRs)
Possible Trade Impact Based on 'Design'/ Implementation/Price Signals
Renewable Energy Targets
Binding Commitments to Reduce Greenhouse Gases
Carbon and Energy Taxes
Removal/Reform of Fossil-Fuel based Subsidies
Renewable Portfolio Standards
Investment Subsidies/Grants
Investment-tax Credits. Eg: Accelerated Depreciation
Preferential Finance or Soft Loans
Income Tax Holidays
Preferential Tariffs and Premiums (including Feed-in Tariffs)
Production Tax-credits/ Generation-based Incentives
Renewable Purchase Obligations
Renewable Energy Certificates (RECs)
Government Procurement (including through competitive bidding) for SEGS
VAT and Sales Tax Reductions and Exemptions on Equipment (for instance: solar water heaters or rooftop solar panels)
Financial Incentives and Soft Loans to Purchase RE Equipment
Technical Standards/Regulations for Sustainable Energy Goods
Domestic Regulatory Measures affecting SEGS providers
No Forseeable Trade Impact
Government Assistance for Business Development
Subsidies/Grants for R&D
Power Purchase Agreements (providing stable guaranteed returns for 'X' number of years)
Net Metering

Source: ICTSD Analysis based on literature survey

A number of countries that are amongst the biggest emitters of greenhouse gases both on an absolute as well as per capita basis also figure amongst the top exporters and importers of 'climate-friendly' goods, as illustrated in Table 2 below. Hence, countries that have the greatest stake in addressing climate change through sustainable energy deployment could also benefit by ensuring stability and predictability of trade flows and market access for SEGS. Trade policy will therefore be an important tool for these countries in the fight against climate change.

Many big emitters are also major traders in climate-friendly products.

Table 2: Top Exporters of Climate-Related Environmental Goods and Other Product Groups, 2008 (Excluding intra-EU Trade)-in USD Million

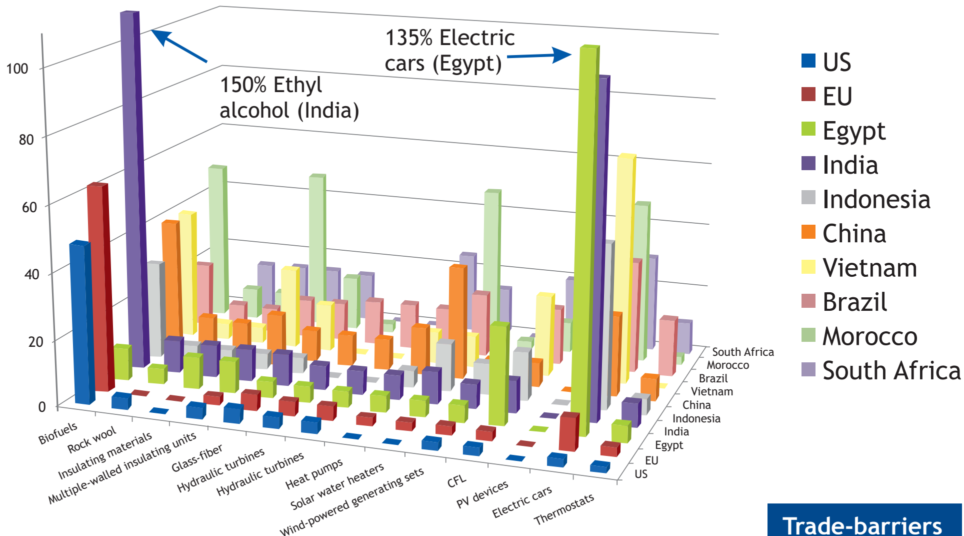
Single-use EGs[9]			Climate-friendly products and components (ICTSD studies)[10]			43 climate-friendly EG (World Bank)[11]		
	USDm	%		USDm	%		USDm	%
All	50986	100	All	236792	100	All	153354	100
China	16204	31.8	EU27	59960	25.3	EU27	40734	26.6
Japan	7923	15.5	China	48851	20.6	China	26954	17.6
EU27	7043	13.8	Japan	31053	13.1	United States	19739	12.9
United States	4234	8.3	United States	27303	11.5	Japan	19649	12.8
Taiwan	4038	7.9	Korea, Rep.	9827	4.2	Korea, Rep.	7232	4.7
Brazil	2449	4.8	Taiwan	7396	3.1	Taiwan	6254	4.1
India	1256	2.5	Singapore	5633	2.4	Mexico	5008	3.3
Mexico	1152	2.3	Mexico	5013	2.1	Singapore	3262	2.1
Korea, Rep.	902	1.8	Switzerland	4756	2.0	Canada	3133	2.0
Malaysia	888	1.7	Brazil	4635	2.0	Malaysia	2897	1.9
Singapore	793	1.6	Canada	4261	1.8	India	2759	1.8
Canada	560	1.1	India	3872	1.6	Switzerland	2617	1.7
Norway	390	0.8	Malaysia	3292	1.4	Thailand	2225	1.5
Thailand	357	0.7	Israel	3011	1.3	Turkey	1261	0.8
South Africa	315	0.6	Thailand	2571	1.1	Norway	1213	0.8
Pakistan	226	0.4	Turkey	2101	0.9	Brazil	1129	0.7
Developing Countries								
	29861	58.6		99778	42.1		62433	40.7

Source: COMTRADE using World Integrated Trade Solution (WITS)-March 2010 from Vossenaar, R. (2010a). Climate-related Single-use Environmental Goods, ICTSD Issue Paper No. 13, International Centre for Trade and Sustainable Development, Geneva, Switzerland.

9 *Figures for trade in single-use products pertain to a set of 15 products selected by ICTSD on the basis of mapping studies of various technologies in the renewable energy, residential and commercial buildings and transport sectors and their subsequent classification based on Harmonised System (HS) codes at the 6 digit level. "Single-use" climate-related EGs are loosely defined here as goods that are used predominantly for climate-related purposes. Examples include wind-powered generating sets (HS 850231) and Solar PV cells (HS 854140). Both denatured and un-denatured ethanol are also included although un-denatured ethanol is more relevant given its use as transport fuel. For further details, please see publications under the theme 'Making Trade Work for Climate Change' at http://ictsd.org/programmes/climatechange/activities/*

Figure 4 below shows tariffs that were actually applied in 2008 by major traders in a number of selected climate-friendly products. It is quite evident from the figure that tariffs are generally low in the US and EU for these products, with the notable exception of biofuels. They are relatively higher for most developing countries. However, solar PV devices appear as an interesting case of a 'climate-friendly' product where applied tariffs are low or even zero for both the US and EU, as well as other developing countries. Products on which countries already apply very low or zero tariffs may be easier candidates for inclusion in any trade liberalisation initiative as the 'pain' associated with 'binding' these tariffs (i.e. setting ceiling levels beyond which they cannot be raised) will be relatively less as compared to products where applied tariffs are higher.

Figure 4: Applied Tariffs on Selected Climate-Friendly Products, 2008.



Source: ICTSD Analysis based on Vossenaar, R. (2010). Climate-related Single-use Environmental Goods, Environmental Goods and Services Series, Issue Paper No. 13, International Centre for Trade and Sustainable Development, Geneva, Switzerland.

Trade-barriers to Sustainable Energy Goods and Services are diverse: tariffs are transparent and may be the easiest to address.

Other trade and market barriers could be sparked by domestic laws and measures linked to investment, government procurement, competition policy and trade facilitation, or possibly by their absence. A great diversity of product-related standards or, on the contrary, an absence of standards could also hamper trade and diffusion of renewable energy equipment, as well as energy efficient products.

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10 These include a broader set of 80 HS-codes analysed by ICTSD that include 'single-use' goods. These also capture trade in a number of goods and components that may also have non-climate related uses or may not be used for climate purposes at all. These are also based on products selected by ICTSD on the basis of technology-mapping exercises in the renewable energy, residential and commercial buildings and transport sectors and subsequent customs classification. For further details please see publications under the theme 'Making Trade Work for Climate Change' at http://ictsd.org/programmes/climate-change/activities/

11 These include set of 43 climate-friendly goods selected by the World Bank from a larger list of 153 environmental goods submitted as an informal document (JOB(07)/54) in April 2007 by the Friends of EGS Group, comprising Canada, the EU, Japan, Korea, New Zealand, Norway, Switzerland, Chinese Taipei, and the United States, for discussion in the WTO.

Addressing Trade-related Governance Gaps

It is imperative, therefore, for countries interested in facilitating further innovation, diffusion and access to sustainable energy goods and services to address these trade-related barriers. Rules and disciplines that are developed in multilateral, plurilateral, regional, and bilateral forums have a determinant bearing on production and trade in SEGS. These include the WTO as well as other regional trade agreements and bilateral investment treaties. In addition, a scale-up of technological development, production and trade flows in SEGS would be affected by negotiating and rule-making in forums set up to address broader issues of climate change, such as the United Nations Framework Convention on Climate Change (UNFCCC), or issues of energy transit, such as the Energy Charter Treaty.

Governing over the use of certain types of barriers can be addressed through existing WTO rules or potentially as part of the Doha Round of trade negotiations. However, while WTO disciplines and rules could be invoked in certain cases, they are often ambiguous as far as the energy sector is concerned. For example, a comprehensive and universally accepted classification of energy services, including sustainable energy services, is missing in the WTO nomenclature. Liberalisation negotiations for such services will involve diverse sectors such as engineering, construction, maintenance and consultancy. This could lead to an incoherent approach within WTO negotiations and ineffective outcomes as far as meaningful market access for sustainable energy services is concerned.

Negotiations under the WTO's Doha Round on Environmental Goods and Services may not move until the Round as a whole revives and makes progress.

Doha negotiations on environmental goods (including those relevant to trade in sustainable energy equipment) have been bogged down by differences between members over scope and coverage, as well as the modalities of liberalisation. Services negotiations too have been making extremely slow progress. Issues that were originally on the table for negotiations, such as investment, competition policy, and transparency in government procurement were dropped from the Doha negotiating agenda following the lack of an 'explicit consensus' at the WTO Ministerial Conference in Cancun in 2003. The Doha Round as a whole is presently stalled, following a lack of agreement in a number of critical areas, such as non-agricultural market access (NAMA) – i.e. manufactured goods. The 'single-undertaking' approach of the WTO, whereby 'nothing is agreed until everything is agreed', makes it very difficult in current circumstances to address energy-related issues as part of a large and comprehensive set of multilateral trade negotiations.

A major forum outside the WTO relevant to sustainable energy is the UNFCCC negotiating framework. This framework, however, faces challenges of its own and may not be the appropriate place to negotiate trade rules and to introduce *operational* provisions for addressing trade and market barriers to SEGS. Another Forum could be provided by the Energy Charter Treaty (ECT), especially since it covers transit and investment-related provisions on energy. However, membership in the ECT is not universal and excludes many countries that matter. Important emerging countries, including China and India, are not yet part of the ECT. Furthermore, at a substantive level the ECT addresses issues of transit and investment related to energy, but has no framework to reflect trade-related concessions on SEGS. Individual regional or bilateral trade agreements may also be limited in terms of membership and may not include important countries that matter for SEGS trade.

Maintaining Momentum in Addressing Trade-related Constraints: The Need for a Sustainable Energy Trade Agreement

All these factors show that it is worthwhile to consider a fresh approach that takes a holistic and integrated view of the sustainable energy sector, while simultaneously tackling a variety of market and trade-related barriers. A Sustainable Energy Trade Agreement (SETA) could be a way of bringing together countries that are committed to addressing climate change and longer-term energy security while maintaining open markets. Numerous possible pathways could be conceived for such an agreement in terms of structure, as well as the scope of issues and market barriers to be addressed.

A SETA could be a stand-alone plurilateral agreement similar to the Government Procurement Agreement (GPA) at the WTO. Alternatively, it could extend concessions on a most favoured nation (MFN) basis to all WTO Members, similar to the Information Technology Agreement (ITA), with such an extension made conditional on the accession of a 'critical mass' of Members based on various trade, climate, or energy-related criteria.

Using flexible pathways and options, SETA could serve as an ideal 'laboratory,' where rules and disciplines pertaining to sustainable energy could be clarified and take shape.

A SETA could also be conceived as a stand-alone plurilateral agreement outside of the WTO, the advantage in this case being that membership would also be open to other, non-WTO Members. There could also be a possibility of eventually incorporating such an agreement into the WTO framework at some point in the future. If concluded outside the WTO, Members would need to clarify the agreement's relationship with existing WTO rules and agreements, including with regard to any dispute settlement mechanisms.

Numerous possibilities also exist regarding the manner in which the scope of issues and market barriers could be addressed within a SETA. Issues could be addressed in two phases, with a first phase addressing clean energy supply goods and services, starting with solar, wind, small-hydro and biomass, and eventually extending to marine, geothermal, clean coal, and transport-related biofuels. A second phase could address the wider scope of energy efficiency products and standards, particularly those related to the priority sectors identified by the Intergovernmental Panel on Climate Change (IPCC) for GHG mitigation: buildings and construction, transportation, and manufacturing. Negotiators could take up issues as a 'cluster' or proceed incrementally on an issue by issue agenda. Each of these approaches has its own pros and cons which are illustrated in Table 3 below.

Table 3: Possible Pathways for a Sustainable Energy Trade Agreement

Options	Pros	Cons
Structure		
Type of Agreement		
Plurilateral (ITA-type) within the WTO framework.	• Benefits are extended to all WTO members (upon attaining “critical mass.”).	• Delays in ‘entering into force’ depending on ‘criteria’ and definition of ‘critical mass’. • May exclude non-WTO members from joining.
Plurilateral (GPA-type) within the WTO framework.	• Easier to address contentious issues if concessions are limited to SETA founding members. • May enable agreement to come into force more quickly.	• Benefits are only enjoyed by parties to the agreement.
Plurilateral or multilateral agreement outside the WTO framework.	• Can include non-members to the WTO. • May provide useful lessons for eventual subsequent (when conditions are ripe) replication within the WTO framework.	• May lower confidence in the ability of the multilateral trading system to deliver on issues that matter for trade and sustainable development.
Membership		
Criteria open or undefined to achieve ‘critical’ mass.	• May provide greater options for ‘like-minded’ countries to initiate the SETA process.	• In the absence of strict criteria, could exclude countries that ‘matter’ for trade, climate change and sustainable energy.
Based on one criterion or a combination of criteria. For e.g.: top 20 GHG emitting countries, countries comprising X per cent of trade in sustainable energy goods and services.	• Provides a clear criterion and rationale for initiating the SETA and also defines objective thresholds for an agreement to come into effect or be meaningful.	• Sticking to strict criteria and ‘thresholds’ may prevent countries that do not meet these criteria but are interested, from joining or initiating a SETA.
Using an existing high-profile grouping such as the G-20 to launch the initiative.	• May provide a forum conducive to taking a political decision. Groupings such as G-20 automatically include both high emitters as well as key traders of SEGS.	• May become too closely linked with a certain grouping of countries. With new countries emerging as GHG emitters or traders of SEGS, there may be a need to reach out to non-members of the group.

Accession		
'Automatic' upon fulfilment of minimum conditions.	• Easier process to join a SETA and speedier expansion.	• 'Wait and see' attitude on the part of many countries.
Negotiations with each individual member, similar to the WTO accession process, that could result in SETA 'plus' obligations.	• Requirement of undertaking subsequent negotiations with each member with possible 'SETA' plus obligations will result in a greater group of countries seeking to be original parties and thereby having a say in the shape of rules and disciplines.	• May discourage subsequent expansion of SETA once it has been concluded between the original interested parties, unless the benefits outweigh the perceived costs for newer members.
Scope of Issues and Market Barriers		
Closed: Focus on a few pre-defined sectors and/or issues/ market barriers with or without a 'single-undertaking' approach.	• Enables tightly focused negotiations on a critical set of issues. Countries may come with a 'make-it' or 'break-it' attitude.	• Closes the possibility of dealing with certain initially sensitive issues/ barriers in future rounds of negotiations. May not enable SETA to be responsive to new issues as they emerge.
Open-ended 'cluster approach': Phases of negotiations, with each phase addressing a particular 'cluster' of issues, with or without a 'single-undertaking' approach.	• Less contentious issues dealt with earlier, moving onto more contentious issues later.	• Contentious issues may get pushed or postponed to future rounds of negotiations. Delays outcomes desirable from a trade and sustainable development perspective.
Separate negotiations for each sector/issue. Iterative process with rules/disciplines set issue by issue in each round of negotiations.	• Specific issue focus and rule-making possible. • A successful round of negotiations on one issue can improve the 'atmospherics' for negotiations on future issues.	• Reduces the possibilities for trade-offs among issues within a single set of negotiations. • May delay desirable out-comes from the conclusion of new rules and disciplines on a diverse set of issues.

Other Considerations for a SETA
Modalities of liberalisation for sustainable energy goods and services. (For e.g.: Phase out periods for tariffs, sunset clauses on subsidies, etc.).
Dispute Settlement Mechanism and relationship to the WTO's Dispute Settlement Mechanism if the SETA is concluded within a WTO Framework. Also, if non-trade issues were included, what sort of dispute settlement process would apply.
Reflecting a 'development dimension' in terms of both rules and disciplines, as well as liberalisation modalities. This also includes provisions on facilitating access to technologies and technical assistance and capacity-building.
Clarifying the relationship of the SETA to existing trade, climate and energy rules, agreements, and institutions.

Whatever the approach adopted, negotiators should ensure that the 'development dimension' is reflected in the modalities, including special and differential treatment for developing countries as well as meaningful provisions on facilitating access to climate-related technologies, technical assistance, and capacity building. Members may also need to keep in mind the legal and procedural requirements under the WTO to obtain a waiver under relevant provisions of the Marrakesh Agreement for a plurilateral agreement (that may not extend benefits on an MFN basis to non-members) to be included under Annex 4 of the Marrakesh Agreement.[12]

While not a 'silver bullet' remedy for all the trade-related issues and challenges on sustainable energy, a SETA might facilitate alternative or innovative cooperative approaches to rapidly scale up sustainable energy goods and services. It could provide an environment conducive to assessing the linkages between SEGS, and serve as an ideal 'laboratory,' where rules and disciplines pertaining to sustainable energy could be clarified and take shape.

In addition to its catalysing effect on the opportunities of global markets in a sector of huge importance to global climate mitigation efforts, such an agreement could constructively inform, and perhaps even shape the course of future negotiations and work at the WTO as well as the UNFCCC.

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12 *Article X (9) of the WTO Marrakesh Agreement states that ". ...the Ministerial Conference, upon the request of the Members parties to a trade agreement, may decide exclusively by consensus to add that agreement to Annex 4. The Ministerial Conference, upon the request of the Members parties to a Plurilateral Trade Agreement, may decide to delete that Agreement from Annex 4."*