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CLIMATE-SMART TRADE and INVESTMENT in ASIA and the PACIFIC TOWARDS A TRIPLE-WIN OUTCOME

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…CSTs climate-smart technologies

…EXECUTIVE SUMMARY

Part I: Trade, investment and climate change: an overview of issues, concepts, linkages and trends. Trade and investment play a key role in mitigating climate change. The experiences of many Asian-Pacific economies over the past few decades provide clear evidence that trade and investment are the engines of economic growth and development. At the same time, questions can be raised about the sustainability of trade and investment, and the economic growth they trigger. With regard to climate change, it is obvious that trade and investment have been principal, if indirect, contributors to global greenhouse gas (GHG) emissions: trade through transportation and investment through production. As trade and investment increased rapidly in the region, GHG emissions rose as well. This is known as the "scale" effect.

However, trade and investment also affect GHG emissions in other ways. For example, trade allows access to climate-friendly or climate-smart goods and technologies (CSGTs) while investment is required to develop and

produce CSGTs, including renewable energy technologies (RETs). Second, as trade triggers growth and more wealth, consumers become more environmentally aware and may demand environmentally-friendly goods and technologies. In the end, it is only through trade and investment that more effective and efficient climate-smart technologies (CSTs) and RETs can be developed, produced and disseminated. When renewable energy (RE) replaces traditional fossil fuels, trade and investment are no longer associated with GHG emissions. Instead, trade and investment become principal components of efforts to mitigate climate change. Hence, sustainable trade and investment related policies at the national, regional and global levels are required to promote climate-smart trade and investment. (p.1)

…**Part II: Cohesive and coherent climate-smart trade and investment policies**

… Effective technology transfer entails more than just the transfer itself. The transferred technology needs to be properly diffused, and adopted and adapted to fit local needs and requirements. Technology transfer and diffusion are also not automatic, easy and predictable processes. Both technology transfer and development require public support, particularly funding, while for transfer an appropriate investment climate needs to be in place to attract climate-smart FDI. **In general, governments need to address barriers to technology transfer**.

These barriers can be institutional and legal, political, technological, economic, information-related, financial, and cultural. **One particular barrier relates to intellectual property rights (IPR) protection, which can make effective transfer of CSTs prohibitive in the absence of certain flexibilities. However, the importance of IPR varies from country to country in technology transfer. One option is to include additional flexibilities in the WTO Agreement on Aspects of Trade-Related Intellectual Property Rights (TRIPS) with regard to compulsory licensing and trade in generic CSTs in a similar manner as the existing flexibilities for pharmaceutical products. In order to promote the development and transfer of CSTs, the following interrelated recommendations are proposed:**

(a) Strengthen effective national innovation systems and R&D capacity;
(b) Reward "climate-smart" innovation and R&D;
(c) Promote transmission of CST through forging linkages between domestic suppliers and climate-smart TNCs;
(d) Use public-private partnerships to build absorptive capacities of domestic enterprises;
(e) Set up CST clusters and parks;
(f) Link R&D to practical use and commercialization of CSTs;
(g) Specify policy targets for promoting CSTs;
(h) Introduce CSTs in national and regional value-chains;
(i) Improve access to finance, with focus on venture capital; 12
(j) Pay special attention to agriculture;
(k) Strengthen the national IPR regime;
(l) Pay special attention to the needs of least developed countries.
(pp. 11-12)

…**PART II**
COHESIVE AND COHERENT CLIMATE-SMART TRADE AND INVESTMENT POLICIES
(p.143)

…CHAPTER 10

PROMOTING THE TRANSFER AND DEVELOPMENT OF CLIMATE-SMART TECHNOLOGIES

A. Rationale and overview

(p.209)

…**B. Barriers to effective transfer of climate-smart technologies**

The fact that CSTs are at different stages of development means that CST transfer involves both vertical transfer (from the R&D stage through to commercialization) and horizontal transfer (from one geographical location to another). Barriers to transfer and appropriate policy responses often vary according to the stage of technology development as well as the specific source and recipient country contexts (Ockwell and others, 2008). Table II.8 lists the principal barriers to the effective transfer, adoption and diffusion of CSTs. These barriers can be divided into eight categories: institutional; legal; political; technological; economic; information-related; financial; and cultural. (p.213)

Table II.8. Typical barriers to transfer, adoption and diffusion of CSTs

Type Example

Institutional and legal Lack of legal and regulatory frameworks, including adequate protection for intellectual property rights, limited institutional capacity, excessive bureaucratic procedures and unclear arbitration procedures. (p.214)

…**In the case of the other two layers, specific barriers that have attracted attention are those related to intellectual property and finance. IPR protection is at the core of innovation but it is also accepted that an extensive scope or level of protection can be a barrier to technology transfer** (ICTSD, 2008b; Srinivas, 2009). The need for IPR also varies greatly, depending on the type of technology.113 According to Hall and Helmers (2010), **the presence of a "double externality" problem (i.e. environmental and knowledge externalities) implied that patent protection might not be the optimal instrument for encouraging innovation in the area of climate-smart technology, especially given the range and variety of green technologies as well as the need for local adaptation of technologies**.114 Thus, they noted, a need existed for additional policy intervention (through carbon taxes etc.). They also argued that it was highly unlikely that a single, universal mechanism characterized the nexus between IPR and the generation and diffusion of green technologies across countries. Only in emerging developing countries, such as Brazil, China and India, does IPR play a significant role in both (climate-smart) technology development and transfer from developed countries. There is a considerable amount of literature which argues that as long as the majority of new patents in CSTs are registered in developed countries, IPR will be a key political issue in international negotiations (Global Climate Network, 2009). In this regard, **there have also been calls to amend the WTO Agreement on Trade-Related Intellectual Property Rights (TRIPS). Box II.12 explores this issue further**.

Box II.12. TRIPS and transfer of CSTs

The UNFCCC and the Kyoto Protocol require Parties to promote and cooperate in the development and diffusion, including transfer of technologies that control, reduce or prevent GHG emissions (i.e. CSTs). In this regard, the TRIPS Agreement is seen by many as an obstacle to the effective transfer of CSTs. The key instrument for IPR protection in the context of climate change is the patent. Developing countries have argued that their access to CSTs is restricted due to patents held by the companies that developed these technologies.

From a development perspective, it is clear that that the interests of the owners of IPR are properly balanced with those of developing countries, and that **international IPR rules advance broader public policy objectives.**

However, the TRIPS Agreement does have flexibilities for developing countries regarding patent rights. These flexibilities include, but are not limited to, compulsory licensing, parallel importation, exemptions to patentability, exceptions to patent rights and competition policy. The Agreement explicitly promotes environmental, public health, and development goals and gives members some discretion to determine when those goals should override the normal TRIPS restrictions. These flexibilities have already been employed to promote the availability of affordable essential medicine in the developing world.

Article 8 of the Agreement also recognizes that measures "may be needed to prevent the abuse of intellectual property rights by right holders or the resort to practices which … adversely affect the international transfer of technology." The TRIPS Agreement also upholds the principles of MFN and national treatment. The provisions, principles and flexibilities of the TRIPS Agreement should be fully exploited to promote the transfer of CSTs (ICTSD, 2008b). For example, CSTs could receive special treatment like that afforded to essential medicines (Littleton, 2008). In addition, pro-competition provisions in the TRIPS Agreement could be strengthened as was done in the case of pharmaceuticals. It has also been suggested that special compulsory licensing provisions should be adopted for transfer and development of CSTs while the patentability of climate-related inventions could be limited and their length of protection shortened (Third World Network, 2008).

At COP15 in Copenhagen, Brazil, China and India proposed that new green technologies be made subject to compulsory licensing. In particular, China, India and Pakistan, among others, have asked for the development of criteria on compulsory licensing for patented ESTs, joint technological or patent pools to disseminate technologies to developing countries at low cost, time-limited patents, and the provision of fiscal incentives to technology owners to obtain differential pricing. Another proposal is for an expedited compulsory licensing process for clean energy technologies. Another option promulgated by India was to establish a global fund that could buy out IPRs of green technologies and then distribute those technologies free, in a way that is similar to what is done with HIV/AIDS drugs (Kogan, 2010).

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