



## Global Policy Coherence 2009

Governance | climate - finance - trade

### “Climate Change, Technology Transfer and Intellectual Property Rights” Maria Julia Oliva\* - Selected Overview and Extract

COSBEY, A. “*Trade and Climate Change: Issues in Perspective*”, Copenhagen Conference Summary, IISD, October 2008

#### KEY ISSUES

- Enhanced action on technology development and transfer will be central in enabling the full and effective implementation of the UNFCCC beyond 2012. Yet disagreements remain, particularly on the obstacles to the transfer of climate-related technologies and the types of measures that should be taken to overcome them.
- Objectives and commitments on transfer of technology exist under the UNFCCC and Kyoto Protocol, as well as in the trade context. The difficulty of their implementation, however, highlights the importance of moving beyond general language to the consideration of concrete problems and solutions.
- Intellectual property (IP) is potentially both an incentive and an obstacle to the transfer of technology. The exact role of IP in the transfer of climate-related technologies remains unclear. No comprehensive study has been conducted on the impact of IPRs in the different categories of climate-related technologies. Nevertheless, there are calls to address the possible adverse effects of IP on the transfer of climate-related technology.
- The contribution of existing Trade-related Aspects of Intellectual Property Rights (TRIPS) flexibilities to climate-related technology transfer could be significant. Several provisions of the WTO TRIPS Agreement could be used to promote such transfer of technology. Some UNFCCC Parties and other stakeholders are of the view that additional measures should be taken to ensure that IP rules support the climate regime.
- A number of measures related to IP and other innovation and access to knowledge schemes could also be considered in the context of a post-2012 climate regime. Some of the possibilities already being discussed include financial mechanisms and guidelines on IP protection for publicly-funded technologies. Other emerging topics include prizes as incentives to climate-

related innovation, and institutional arrangements for open or collaborative innovation.

#### INTRODUCTION

Technological solutions are imperative in meeting the challenges of climate change. A critical factor in greenhouse gas emissions, technology is also fundamental to enhancing existing abilities and lowering the costs of reducing these emissions. Broad diffusion of current technologies and transition to new ones, for example, are expected to improve efficiency in energy use, introduce less carbon-intensive sources of energy, and further develop renewable energy sources. Indeed, the transition to a low-carbon economy, as all previous energy transitions in history, will be driven by cycles of technological discontinuities and innovations. In this context, 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. Enhanced action on technology development and transfer will also be central in enabling the full, effective and sustained implementation of the UNFCCC beyond 2012, as recognized in the Bali Action Plan.

Both aspects of the technology-related action in the Bali Action Plan—the development and the transfer of technology—are important. Technology transfer, however, has been the focus of technology-related discussions in most MEAs, including the UNFCCC. Remaining technological disparities at the international level and the consideration of mitigation commitments for developing countries in a post-2012 climate regime have determined that—as initial meetings on long-term cooperative action on climate change proceed—transfer of technology will take an unprecedented place on centre stage in the debate. Moreover, it is clear that significant divergences remain as to the obstacles that impede the effective transfer of technology for sustainable development, and the types of measures that can and should be taken in overcoming these obstacles.

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Most transfer of technology occurs in the private sector. Channels for the transfer of technology can be market-based (including trade, foreign direct investment and technology licensing) or informal (such as imitation and the mobility of technical and managerial personnel). The role of the public sector, however, is no less critical. Given that the transfer of technology is not an automatic or costless process, legal and policy incentives are generally required to achieve the most effective rate and approach for transfer of technology in relation to national and international needs and objectives.

As a legal and policy measure, intellectual property is potentially both an incentive and an obstacle to the transfer of technology. IPRs, as private rights, have been established and conceived as instruments to promote innovation and the dissemination of knowledge. Yet an excessive scope or level of protection of IPRs might stifle innovation or make access to knowledge more difficult or costly. In any policy context, including climate change, a balance between the protection of IPRs and the promotion of public objectives, such as the transfer of technology, is necessary.

From discussions on the Bali Action Plan, it would seem that UNFCCC Parties disagree on whether such a balance exists under the current legal and policy framework governing IP and technology as it relates to climate change. As a result, they also appear to have diverse positions as to whether additional measures are necessary in the international IP system and beyond to ensure the transfer of the technologies needed for climate change mitigation and adaptation. The WTO TRIPS Agreement, which introduced IPRs into the international trading system and remains the most comprehensive international agreement on the topic, seems to have been of particular interest and concern in ongoing discussions on the transfer of climate-related technologies.

Increased research and analysis on the links between transfer of technology and IP will be fundamental to overcome these apparent differences, and to develop effective technology-related international cooperative action on climate change. Given the complexity of the topic, the present paper does not aim to comprehensively address the topic, but merely to provide an initial review of selected issues. In the context of ongoing work on trade and climate change, the objective of this paper is thus to briefly look at the relationship between IP and the transfer of climate-related technologies and outline some of the existing and prospective measures, primarily in the TRIPS Agreement, that could be considered in support of a post-Kyoto climate regime.

### CONCLUSIONS AND RESEARCH AGENDA

Given remaining uncertainties, a definitive conclusion on the relationship between IP and the transfer of climate-related technologies is not yet feasible. Similarly, there is still little clarity as to the manner to best address this relationship in the various relevant international institutions and rules, and not much discussion on the modalities by which we might address the different challenges posed by fast developing and least-developed countries. Nevertheless, an overview of the potential opportunities and challenges

presented by international IP rules to technology transfer under the post-2012 climate regime does present important lessons for possible next steps both in the UNFCCC and in the WTO.

First, it should be noted that the TRIPS Agreement has a number of provisions that could be used to promote the transfer of climate-related technologies. The use of these flexibilities has not proved easy in other areas, but there is no prima facie evidence of such obstacles in the climate change context. Existing possibilities, therefore, should be explored in full.

It is also important to note the need for negotiating expertise in the area of technology and IPRs—an expertise that is not shared by many environmental negotiators.

As well, the consideration of measures related to IP and other incentive schemes should not be limited to the discussions on the TRIPS Agreement, but should also consider opportunities within climate negotiations. Considering IP-related issues in the development of measurable, verifiable indicators of technology transfer, for example, could be helpful in ensuring adequate consideration of any positive and negative impact of IP on the implementation of the relevant UNFCCC and Kyoto Protocol provisions. It would be useful to explore how to measure IP's contribution to or frustration of technology transfer for climate change, particularly in light of the language in the Bali Plan of Action that technology transfer must take place in a "measurable, reportable and verifiable manner" (Note that this language can create perverse incentives in evaluating projects that turn out not to work, for the evaluation can lead to arguments that reciprocal responsibilities are excused.)

In addition, a number of mechanisms increasingly explored and used in other public policy areas—including health, education and R&D—provide interesting examples to explore in ongoing UNFCCC negotiations as ways to enhance the technology transfer component of the post-Kyoto climate regime.

Research is needed describe the climate-related technologies most strategic for developing countries, the patent landscape of those sectors and goods, and the manner in which these patents impact the transfer of technology in practice (looking, for instance, at licensing arrangements: how technology is being commercialized, under what conditions, and to whom) could assist in moving negotiations towards more concrete problems and potential solutions.

Research also needs to be carried out to explore the hypothesis that IPRs are not likely to have a serious impact on technology transfer in the area of climate change, focusing on the technologies identified above. In making such an evaluation, the number of patents in the area is not the key issue—there will be many patents. Rather the key issue that may distinguish the pharmaceutical area from the climate change area is licensing practice and whether effective IPR-based markups and royalty rates are likely to be substantial as in pharmaceuticals or only a minor

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portion of overall costs. It is essential to get beyond anecdotes.

Whatever the importance of IPRs, there are surely other avenues of policy that are also important, or are of complementary importance, in fostering technology transfer. Research should identify the regulatory and subsidy structures likely to be useful to developing nations in achieving reasonable GHG control. This is crucial, for it is often only through such structures and arrangements that the technologies will become economically deployable. And the appropriate arrangements are likely to differ from nation to nation. And it should identify those elements of policy that might improve the capacity of host countries to receive and use new climate change technologies.

More research is also needed to identify and evaluate alternative methods of technology development and transfer that involve direct government actions, such as PPPs. There are many different forms of PPP; it is not yet clear which are applicable to climate change technologies. How have the processes worked? What about development of best practices?

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