



ACCESS TO CLIMATE CHANGE TECHNOLOGY BY DEVELOPING COUNTRIES: A PRACTICAL STRATEGY

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GLOBAL PLATFORM ON CLIMATE CHANGE, TRADE & SUSTAINABLE ENERGY

September 2009

EXECUTIVE SUMMARY

Enhancing developing countries access to climate change technologies is a key objective within the climate change negotiations. However, some of the proposed approaches in the current negotiations are likely to fall short of delivering effective solutions that work in the real world. Instead, a fundamentally different approach that focuses on the capacity of developing countries themselves to innovate and contribute to climate technology development on fair and equal terms with developed country partners is needed.

Climate change presents a momentous challenge for developing countries. Poor people face crises like water scarcity in arid regions, island inundation, bacterial contamination and immunity deficit, food shortages, expensive energy and infrastructure collapse due to energy shortages. Developing countries need to employ climate change technologies in order to avert climate catastrophe.

Effectiveness of Some Approaches in Question

Various approaches have been suggested for facilitating access to climate change technology by developing countries including; compulsory licensing, patent pools, patent databases and structured voluntary licensing “mechanisms”. These are, however, non-solutions, or at best, partial solutions because they would be of limited effectiveness in achieving their intended objective.

In this regard, some of these approaches could potentially be detrimental to developing countries. For example, in some cases patent pools may cover patents not legally valid in many developing countries, while requiring developing countries to contribute their own intellectual capital and/or pay royalties for the use of patents that they otherwise would not be legally required to pay. Patent information databases are compilations of public material that is already accessible to developing countries. Proposals for structured voluntary licensing mechanisms entail royalties, and they place too much reliance on management by professionals in developed

countries, international bureaucratic arrangements (of what must be an agile business process), expensive software, and packaged technology portfolios selected by developed country parties.

A New Approach: Climate Change Innovation Strategies and ‘Win-Win’ Contracts

What can work to enhance climate change technology for developing countries is a sustained two-pronged effort to implement a climate change innovation strategy (CCTIS) in developing countries, and to enter into mutually beneficial development collaboration and intellectual property (IP) licensing agreements between developed country companies and research institutions and their counterparts in developing countries.

Under the first prong, developing countries should; target climate change research in their universities and research institutions, strengthen innovation infrastructure to support their researchers, claim the economic value of their human capital as IP, and participate as owners in the growing global market for climate change technology. An innovation strategy should target the funding and infrastructure deficit that cripples research, development and commercialization by developing country actors in developing countries. International funding initiatives should support developing country-originated CCTIS. China and Cuba provide examples of developing countries that have successfully implemented innovation strategies.

CCTIS is the foundation for the second prong of this approach: mutually beneficial technology transfer contracts. Such contracts, generally technology licenses and development collaboration agreements should be “win-win” contracts. A win-win contract results when the material terms of the contract provide that both parties contribute relatively equal value to a technology transaction and stand to gain relatively equal benefit. Without the support of a realized innovation strategy, attempting to negotiate beneficial technology transfer agreements is like constructing a building without a foundation.

Developed Country Responsibilities

CCTIS is not an excuse for developed countries to place responsibility solely on developing countries

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for solving their own economic and climate change problems. Developed country actors must also be willing to commit to change and move towards open innovation with developing country partners. One reason why open innovation in new markets is attractive today is the scarcity that has hit the developed world with the global economic crisis, concomitant with the gradual realization that traditional sources of financing may have shifted. Another is the critical need for markets for climate change technologies to exist in order to achieve the traction that new technologies need to mature and become commercialized. Developing countries are potential markets with additional customers that developed countries need in order for their green industries to survive and grow. Further, technology is not a zero sum game: the larger the green platform, the more space there is for many players.

Consensus can be achieved on this practical strategy for several reasons. It respects the logic of the IP system: that human capital is valuable and creates technical solutions to human needs as well as economic effects. It is hard to argue with the premise, once it is squarely posed, that developing countries should participate in the IP system as owners and traders in technology.

This is a medium to long-term strategy that is likely to work. The tendency to insist on immediate technology transfer by shallow devices and ineffective measures has proven illusory in the past.

This does not mean that project-oriented approaches for prompt results should not be attempted (e.g. a solar photovoltaic field installed in a developing country), but rather that such initiatives should be implemented as part of a longer-term strategy (e.g. the solar facility agreement includes explicit terms to engage the local university).

Elements of Change

In order to implement this strategy, including initiatives appropriate for the Copenhagen agenda, five elements stand out as being important:

1. Support for endogenous climate change research and development;
2. Management of developing country intellectual assets;
3. Climate change technology commercialization,
4. Awareness programs, and;
5. Periodic assessment.

Each country must tailor innovation strategy to its own needs and policies. Innovation strategies have common elements, including identification of one or more target technology clusters (e.g. biomass or solar

or waste to gas or geothermal). This includes funding for related science education at primary, secondary and tertiary levels in national budgets, as well as, importantly, funding graduate student research. In terms of providing a conducive business environment, countries can operate technology incubators to provide legal and business services, train professionals in key skills such as patent drafting and contract negotiation, bridge financing and loan guarantees for SMEs in target areas, and clarify laws and policies on technology commercialization at research institutions. Small, very poor countries will have a more difficult time than middle income ones in trading on their human capital, but these handicaps would be true for any program of development. LDCs will need to tailor innovation strategies to their needs and capacities. They can join networks and engage in south-south collaborations as a way to gain economies of scale and participate in larger regional innovation strategy.

The Need for Action

Finally, the international climate change discussions leading to Copenhagen and beyond, present an opportunity to link climate change technology transfer with the development of national innovation systems in order to achieve concrete results for developing countries. Theoretical and legalistic discussion concerning IP and technology in developing countries does not yield concrete results without action and application. Mythologies that have failed should not be repeated, such as the notion that enforcement of IP laws per se promotes innovation (the favored myth of developed countries) or that "technology transfer" can occur in a one-way flow (the favored myth of developing countries). To date, the developing country scientist is the "invisible man" in the big picture of the pre-Copenhagen negotiations. Scant attention has been paid to climate change technology R&D in developing countries.

Urgent action to implement CCTIS is critical because the human capital of developing countries is the sine qua non for their access to climate change technology. Furthermore, only full engagement of all human beings in the search for climate change solutions will make our collective survival feasible.

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ICTSD Programme on Intellectual Property Rights and Sustainable Development, Issue Paper No. 25, September 2009.

The full study is available online at <http://ictsd.net/i/publications/58385/>

ISSN: 1684-9825