

04 TECHNOLOGY TRANSFER

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The UNFCCC Article 4, Paragraph 5 stresses the need for transfer of environmentally sound technologies from the developed world to developing as well as least developed countries (LDCs), to help them adopt a low-carbon growth and development path. Negotiations on the mechanisms of technology transfer began at Bali (COP-13). It was hoped that the process would lead to a formal decision or understanding at Copenhagen (COP-15).

To work out the details of a formal mechanism and formulate the technical structure of this transfer, an **Expert Group on Technology Transfer (EGTT)** was set up by the Marrakesh Accord. Work on the design of a future agreement on technology transfer was also carried out in the Ad-hoc Working Groups set up at COP-13.

The COP-15 at Copenhagen failed to arrive at a legally binding commitment on technology transfer. The Copenhagen Accord mentions a “**technology mechanism**” for technology development and transfer, without giving much hope or detail of what this mechanism would look like.¹ The Accord also mentions the “**Copenhagen Green Climate Fund**” to support, among other things, technology transfer.

Earlier this year (2010), meetings in Bonn and Tianjin failed to generate any consensus on the mechanisms of technology transfer. A deadlock over Intellectual Property Rights (IPR) between China and the US at the Tianjin summit has now led to an impasse on any consensus on the mechanisms, rendering technology transfer of environmentally sound technologies a brick in the larger game of trade diplomacy between the countries.

The GEF's role

The **Global Environmental Facility (GEF)**, at COP-14 at Poznan, was entrusted with the task of developing a strategic programme aimed at a scaling up of technology transfer to developing nations. The GEF, a financial organisation set up by UN organisations, the World Bank and other multilateral banks, was controlled by the World Bank earlier but is now an independent fund that gets its funding for climate change-related work from developed countries through the ‘special climate change fund’.

The proposed scale-up of technology transfer was to be done by setting up the structure needed for the strategic programme, assessing the national technological needs of each country that wishes to receive technology, developing pilot projects for technology transfer and reporting its results to the COP-16. The Poznan strategic programme emerged as a parallel structure to the technology mechanism mentioned in the Copenhagen Accord; the fate of these two now hinges on the outcome of negotiations at Cancun.

The pilot projects and technical needs assessments, under the aegis of GEF, have achieved limited success. The GEF, according to its own admission, has spent over US \$2.5 billion on technology transfer over 17 years.²

Others in the fray

Apart from the technology mechanism and the Poznan programme, there are multiple organisations working on the modalities of technology transfer. Bilateral and multilateral agreements are trying to build capacity of various independent actors as well that of governments. A report on technology transfer by the Subsidiary Body for Implementation in the UNFCCC offers a detailed account of programmes carried out by the UNEP, UNDP, UNIDO, EU and single nations as case studies of technology transfer. However, a majority of these programmes seems to be restricted to providing technical assistance and human resource building and do not meet the spirit of technology transfers.

There are a few other transfer options, such as through the Asia-Pacific Partnership on Clean Development and Climate, the Asia Pacific Economic Cooperation, the Energy and Climate Partnership of the Americas, and bilateral MoUs as well as proposed technology transfer networks and centres. Examples of bilateral treaties have been taken up in the Subsidiary Body for Implementation's report on technology transfer:

“Japan reported on actions to exchange information on policies through bilateral dialogue with developing countries, with a view to improving energy efficiency by sharing energy-conservation policies and

supporting effective systems. Canada reported steps taken to assist developing countries directly with their technology needs, including technology transfer projects for climate change development of which capacity-building is a component. The EU also reported in its submission a range of bilateral activities that either directly or indirectly involves the provision of support for the enhancement of institutional systems and regulatory and legislative frameworks needed to scale up the development and transfer of technologies.”³

However, there remains an essential lack of an overarching mechanism for multilateral technology transfer. Hopes are pinned on COP-16 to make a breakthrough on the details and implementation of a formal mechanism of technology transfer, but if the Bonn and Tianjin meetings this year are any indication, COP-16 may turn out to be a damp squib as far as technology transfers are concerned.

Challenges

There are three main challenges: **the architecture of a technology transfer mechanism, its funding and the issue of intellectual property rights.**

Of these three, architecture seems to be the least of the problems⁴ with most negotiators agreeing on the need for some kind of executive committee on technology for supervising the transfer mechanisms. The Bonn meeting, for instance, had promoted a Climate Technology Centre and Network.

Funding is a problem that, much like other climate change projects, is affecting technology transfer as well, more so because of the worldwide economic

crisis that has made developed countries far less generous. Decisions were made in Copenhagen on the quantum of funding needed – both through the GEF’s Special Climate Change Fund and the Copenhagen fund – but so far, it has proven to be hard to obtain commitments for the amounts needed from donor countries.

How much of this funding will go to technology transfer is still unclear as each donor decides by themselves how to dispense the money. Some have decided to contribute towards the GEF which will, at least, partly go to technology transfer. Bilateral agreements may have components of technology transfer in them as well but most donor countries have not yet revealed how their funds will be channelled. It would, therefore, be impossible to predict the amount of funding that goes into technology transfer alone.

The issue of intellectual property rights (IPRs) has been contested and debated between the North and the South, largely with the focus of equity and justice in a global village. Developed countries have historically been reluctant to give up their advantages in the R&D sector. Governments in the North also have little control over decentralised, private enterprise-based R&D products and processes. Stricter and longer patent and copyright laws in the North have led to restrictions on the core spirit of such transfers. The US and China have locked horns over this issue where the US sees China’s trade as a potential threat. It believes that transferring technologies that are under IPRs to the developing world, including China, would deepen these nations’ domestic economic crisis.

The country positions

The **large developing countries**, negotiating under the constellation of the ‘BASIC’ group – Brazil, South





The essential paragraphs from the Accords and Reports

The IPCC report's definition of technology transfer

... a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders such as governments, private sector entities, financial institutions, NGOs and research/education institutions. Therefore, the treatment of technology transfer in this Report is much broader than that in the UNFCCC or of any particular Article of that Convention. The broad and inclusive term "transfer" encompasses diffusion of technologies and technology cooperation across and within countries. It covers technology transfer processes between developed countries, developing countries and countries with economies in transition, amongst developed countries, amongst developing countries, and amongst countries with economies in transition. It comprises the process of learning to understand, utilize and replicate the technology, including the capacity to choose and adapt to local conditions and integrate it with indigenous technologies.⁸

— **Methodological and Technical Issues in Technology Transfer, The Special Report of the UN Intergovernmental Panel on Climate Change (IPCC) Working Group III**

Agenda 21 (1992)

34.4. There is a need for favourable access to and transfer of environmentally sound technologies, in particular to developing countries, through supportive measures that promote technology cooperation and that should enable transfer of necessary technological know-how as well as building up of economic, technical, and managerial capabilities for the efficient use and further development of transferred technology. Technology cooperation involves joint efforts by enterprises and Governments, both suppliers of technology and its recipients. Therefore, such cooperation entails an iterative process involving government, the private sector, and research and development facilities to ensure the best possible results from transfer of technology. Successful long-term partnerships in technology cooperation necessarily require continuing systematic training and capacity-building at all levels over an extended period of time.

— **Chapter 34: Transfer of environmentally sound technology, cooperation and capacity-building**

United Nations Framework Convention on Climate Change (1992)

1. All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:
- (c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors;
5. The developed country Parties and other developed Parties included in Annex II shall take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. In this process, the developed country Parties shall support the development and enhancement of endogenous capacities and technologies of developing country Parties. Other Parties and organizations in a position to do so may also assist in facilitating the transfer of such technologies.

— **Article 4: Commitments**

Bali Action Plan (2007)

1. Decides to launch a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome and adopt a decision at its fifteenth session, by addressing, inter alia:
- (d). Enhanced action on technology development and transfer to support action on mitigation and adaptation, including, inter alia, consideration of:
 - (i) Effective mechanisms and enhanced means for the removal of obstacles to, and provision of financial and other incentives for, scaling up of the development and transfer of technology to developing country Parties in order to promote access to affordable environmentally sound technologies;
 - (ii) Ways to accelerate deployment, diffusion and transfer of affordable environmentally sound technologies;
 - (iii) Cooperation on research and development of current, new and innovative technology, including win-win solutions;
 - (iv) The effectiveness of mechanisms and tools for technology cooperation in specific sectors;

— **Decision 1/CP.13: Bali Action Plan**

Copenhagen Accord (2009)

10. We decide that the Copenhagen Green Climate Fund shall be established as an operating entity of the financial mechanism of the Convention to support projects, programme, policies and other activities in developing countries related to mitigation including REDD-plus, adaptation, capacity-building, technology development and transfer.
11. In order to enhance action on development and transfer of technology we decide to establish a Technology Mechanism to accelerate technology development and transfer in support of action on adaptation and mitigation that will be guided by a country-driven approach and be based on national circumstances and priorities.



Africa, India and China – are pressing for a more widespread transfer of technology and a weakened or removed patent right on environmentally sustainable technology. They urge the developed countries to own up to their promises and to create a working mechanism for technology transfer at COP-16⁵.

The EU **and the** US urge that collaboration and dissemination are more important, and are apprehensive that giving away technology would deteriorate the trade balance. It appears that the EU stand on technology transfer has hardened after the COP-15⁶.

G77 and China have drawn up a suggestion for a technology transfer mechanism that include the establishment of a separate body for technology transfer under the UNFCCC and setting up of a multilateral climate technology fund. Citing the profits that the North has made historically on polluting industries, they argue that funding for technology transfer should be much larger and that IPRS should not be allowed to hinder progress⁷.

India has proposed to set up a Network of Climate Innovation Centres to quicken the development, diffusion and deployment of mitigation and adaptation technologies.

Cancun – what we are looking for

- A status report on the GEF's progress with technology transfer pilot projects
- A clear view on where the Poznan strategic programme on technology transfer is going and if it should be expanded or worked into the technology mechanism.
- A detailed, binding agreement on how the technology mechanism mentioned in Bali and Copenhagen should function and if this would be in the form of the Bonn proposal of a Technology Executive Committee and a Climate Technology Centre and Network; its architecture, purpose, decision structure and funding need to be clearly laid out
- A solution to the IPR dilemma

References

1. The relevant paragraph reads: *"In order to enhance action on development and transfer of technology we decide to establish a Technology Mechanism to accelerate technology development and transfer in support of action on adaptation and mitigation that will be guided by a country-driven approach and be based on national circumstances and priorities."*
2. Anon, *Transfer of Environmentally Sound Technologies: The GEF Experience*, GEF, Washington D.C.
3. Anon, May 2010, *Report on the review and assessment of the effectiveness of the implementation of Article 4, paragraphs 1(c) and 5 of the Convention*, Subsidiary Body for Implementation, Bonn
4. Anon, December 17, 2009, 'Technology transfer: where have we reached at so far at COP-15?' *Climatico Analysis*
5. Anon, October 2010, 'BASIC members urge developed countries to meet obligations', Xihuanet.com
6. Anon, June 2010, 'Summary of the Bonn climate change talks', *Earth Negotiations Bulletin*, IISD
7. Anon, 2010, 'Proposal by the G77 and China for a Technology Mechanism under the UNFCCC', UNFCCC website
8. Anon, *Transfer of Environmentally Sound Technologies: The GEF Experience*, GEF, Washington D.C.