International Transfer of Green Technology
Incentives to innovate or dissemination and access?

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Outline

• The International Legal Framework
  • Early UN Declarations
  • UNFCCC
  • UNCCD
  • TRIPS

• Facilitating Green Technology Transfer: Incentives or Access?
  • The Basic Balance in Art.7 TRIPS
  • Incentive Mechanisms
  • TRIPS-consistent Access and Dissemination Facilitators

• Conclusions
Introduction

Climate Change and Green Technologies

• Greenhouse Gas (GHG) Emissions, resulting mainly from human (induced) activity, foster **Global Warming**

• Next to Global Efforts to reduce GHG Emissions (by agreeing on individual GHG reduction commitments), a crucial tool is the development and use of ‘**Green Technologies**’ (GT):
  • **Mitigation Technologies** (Slowing Climate Change by Reducing GHG Emissions)
  • **Adaptation Technologies** (Helping to Adjust to and Cope with the Effects of Climate Change)
The International Legal Framework

Declaration of the UN Conference on the Human Environment (1972)

Scientific research and development in the context of environmental problems, both national and multinational, must be promoted in all countries, especially the developing countries.

In this connection, the free flow of up-to-date scientific information and transfer of experience must be supported and assisted, to facilitate the solution of environmental problems; environmental technologies should be made available to developing countries on terms which would encourage their wide dissemination without constituting an economic burden on the developing countries.

(Principle 20)
The International Legal Framework

**Agenda 21**, Rio Earth Summit (1992)

*There is a need for favourable access to and transfer of environmentally sound technologies, in particular to developing countries (…) (sec.34.4)*

Consideration must be given to the role of patent protection and intellectual property rights along with an examination of their impact on the access to and transfer of environmentally sound technology, in particular to developing countries, as well as to further exploring efficiently the concept of assured access for developing countries to environmentally sound technology in its relation to proprietary rights with a view to developing effective responses to the needs of developing countries in this area. (sec.34.10)
The International Legal Framework

UNFCCC, Art.4 (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

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.
The International Legal Framework

Draft Text in the Copenhagen Negotiations (2009)

• Option 1: No Reference to IP in the text

• Option 2: Contracting Parties agree that
  • Int. IP Treaties must be interpreted to allow measures on access to & transfer of (IP protected) GTs
  • Measures to remove barriers to GT transfer include
    • Creation of a Global Technology IPRs Pool allowing access on royalty-free, non-exclusive basis
    • Ensure free sharing of publicly funded GTs and related know-how
  • In DCs/LDCs, IP protection shall be excluded/revoked for all adaptation/mitigation GT
  • DCs have right to use all TRIPS flexibilities
  • Name/recommend to remove barriers to GT transfer
The International Legal Framework

**UN Convention to Combat Desertification** (1994)

Article 18: 1. The Parties **undertake**, as mutually agreed and in accordance with their respective national legislation and/or policies, to **promote, finance and/or facilitate the financing of the transfer, acquisition, adaptation and development of environmentally sound, economically viable and socially acceptable technologies relevant to combating desertification and/or mitigating the effects of drought**, with a view to contributing to the achievement of sustainable development in affected areas. (…).

The Parties **shall**, in particular:

(b) **facilitate access**, in particular by affected developing country Parties, **on favourable terms**, including on concessional and preferential terms, as mutually agreed, **taking into account the need to protect intellectual property rights, to technologies most suitable to practical application for specific needs of local populations**, paying special attention to the social, cultural, economic and environmental impact of such technology

(e) **take appropriate measures to create domestic market conditions and incentives**, fiscal or otherwise, **conducive to the development, transfer, acquisition and adaptation of suitable technology, knowledge, know-how and practices**, including measures to ensure adequate and effective protection of intellectual property rights.
The International Legal Framework

The **WTO/TRIPS Agreement** (1994)

*Developed country Members shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base.* (Art.66:2)

- **Mandatory nature** of the Art.66:2 TRIPS obligation ([para.11.2 of the Doha Declaration on Implementation related issues and Concerns, 2001](https://www.wto.org/english/tratop_e/tripsc_e/dohadcl_01_e.htm))

  - **Annual Reports** by ‘developed countries’ (?)
  - Information on:
    - State **incentive regimes**, specific incentive mechanisms
    - **Eligible enterprises** in reporting country
    - **Type of technology** transferred, **mode of transfer**
    - **LDCs** benefitting from TT
The International Legal Framework

POLICY BRIEF NUMBER 2. DECEMBER 2008

Does TRIPS Art. 66.2 Encourage Technology Transfer to LDCs?
An Analysis of Country Submissions to the TRIPS Council (1999–2007)

UNCTAD – ICTSD Project on IPRs and Sustainable Development

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Introduction
The issue of whether or not technology transfer to least developed country...
The International Legal Framework

Study Findings

• Lack of definitional clarity regarding the terms “technology transfer” and “developed country” make it **unclear just exactly which Members are obligated to provide incentives, and for what.**

• Many developed countries have never submitted a report to the TRIPS Council, and among countries that did, **submissions have largely been irregular.**

• Of the 292 programmes and policies reported, only 31% specifically target LDC WTO Members. In addition, about one-third of programmes that do target LDCs do not actually promote technology transfer. Thus, **out of the 292 programmes, only 22% involve technology transfer specifically targeted to LDC WTO Members.**

• The reports do not provide sufficient evidence to determine whether these initiatives represent additional incentives beyond business-as-usual. Thus, **it is unclear whether Article 66.2 has led to any increase in incentives for technology transfer to LDC Members.**
Facilitating GTT: Incentives or Access?

The **Role of Intellectual Property** (IP) protection in facilitating the Transfer of Green Technology (GT):

- An **incentive** for R&D and Production of GTs?
- or
- a **barrier** to the transfer and dissemination of GTs?
The Basic Balance of Art.7 TRIPS

TRIPS: ISSUES

Technology transfer

Developing countries, in particular, see technology transfer as part of the bargain in which they have agreed to protect intellectual property rights. The TRIPS Agreement includes a number of provisions on this. For example, it says one of the purposes of protecting intellectual property is to promote innovation and technology transfer, and it requires developed countries’ governments to provide incentives for their companies to transfer technology to least-developed countries.

More precisely, Article 7 (“Objectives”) states that the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.
Incentive Mechanisms

• IPRs can function as incentives for market actors to develop new adaptation and mitigation technologies

• IP incentives however work only if there is potent market demand

• A case of market failure – the example of neglected diseases

→ How to incentivize R&D in any ‘neglected’ green technology needs in DCs, especially LDCs?

→ A case for additional incentive mechanisms?
What is the clean development mechanism?

The **CDM** allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits, each equivalent to one tonne of CO2. These CERs can be traded and sold, and used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol.

The mechanism stimulates sustainable development and emission reductions, while giving industrialized countries some flexibility in how they meet their emission reduction limitation targets.

The CDM is the main source of income for the UNFCCC **Adaptation Fund**, which was established to finance adaptation projects and programmes in developing country Parties to the Kyoto Protocol that are particularly vulnerable to the adverse effects of climate change. The Adaptation Fund is financed by a 2% levy on CERs issued by the CDM.
The CDM and technology transfer

Since 2007, the UNFCCC secretariat has been assessing the co-benefits that the CDM provides in terms of its contribution to the transfer of technology and knowledge between countries. These analyses of information contained in project design documents indicate the level of technology transfer that is occurring for different project types and host countries, as well as how this may be seen against the assessment of technology needs.

The 2010 study approaches the subject with a wider scope, makes use of improved data and considers more CDM projects (up to 30 June 2010). It provides new perspectives on the technology transfer co-benefits of the CDM and shows in further detail that the CDM has been effective in delivering technology needed by developing countries.
Incentive Mechanisms

A Model for incentivizing R&D to address GT-Needs in DCs?

- Using **Public Money** to create an incentive for / to pay for specific R&D and related technology transfer (analogous to the global health funds)

- **Extending emissions-trading systems to cover transfer of GT:**
  - If **technology users** can pay with **emission certificates** which can be **freely traded** also in the markets where the technology provider operates, a new incentive for market actors to develop and provide tailored GT to DCs is created.

- **Demand** (i.e. what technology should be developed/transferred) can be determined by:
  - **International bodies** – based on scientific needs-assessment;
  - **Gov’s of the technology receiving country**; or
  - (Private actor) **users of the mitigating or adapting GT** – this however requires a emissions trading scheme / market for emission certificates to be operational in DCs so that users can select and ‘buy’ GT with their own emission certificates...
Access & Dissemination Facilitators

→ Improved access to knowledge sources as vital element of TT

• **Legal Mechanisms** / TRIPS Flexibilities:
  - Interpretation & Implementation based on TRIPS objectives (para.5 a) Doha Declaration)
  - **Exceptions and limitations** (Art.30 TRIPS) - e.g. research exemption in patent law (see: Art.9 b) Draft EU Pat Reg: exempting “acts done for experimental purposes relating to the subject-matter of the patented invention” from patent rights)
  - **Compulsory licensing** (Art.31 TRIPS)
  - Controlling Anticompetitive **Licensing Practices** (Art.40)

• Other Tools:
  - Improved **access to patent information**, patent databases
  - CSR initiatives of patent holders (‘Eco-Patent Commons’)
Access & Dissemination Facilitators

Overview

Sharing knowledge and technology that protect the environment is one way to address a wide range of challenges and threats to our planet. One vital way to share such knowledge and technology is through making patented technology available. Yet, to date, there has been no organized effort to make patents available, without royalty, to help enable the world community to reduce waste, pollution, global warming and energy demands.

The Commons concept recognizes that some patents that provide environmental benefit may represent the jewels of a company's kingdom. Asking an enterprise or University to relinquish such key assets is not the objective of the Commons.

However, leading businesses and Universities may hold some patents that provide environmental benefit and do not represent an essential source of business advantage for them. Though these patents may provide nominal license or exclusivity potential for companies, they may provide greater value in a public commons.
Eco-Patents Database

Device for energy supply to hybrid motor vehicle

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Abstract/Further information
Device for energy supply to hybrid motor vehicle, has performance optimized energy storage device and second performance-optimized energy storage device whereby charge controller adjusts scheduled charge state of first energy storage

- Search for more information on the German patent information system
Conclusion

• There is no shortage of international rules on the transfer of green technology – but they are scattered in distinct rule systems

• No evidence that TRIPS obligations to provide incentives for TT have lead to the creation of “a sound and viable technology base” in LDCs (Art.66:2 TRIPS)

• Beyond IPRs, incentive mechanisms are needed for R&D in / transfer of GT tailored to the needs of DCs

• Smart use of TRIPS flexibilities can facilitate access and dissemination of technology in DCs
Thank you for your attention!

Comments and critique to
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