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- Preparing and testing a set of Performance Indicators for technology transfer
- Recommendations on future financing options for enhancing technology transfer under UNFCCC
- Preparing a strategy paper for long term perspective beyond 2012 to facilitate technology transfer under UNFCCC
Summary of financing needs and gap

Funding needs to increase 4 to 10 fold
Overview of possible activities and mechanisms

### Possible activities

- **Increasing funding for RD&D:**
  - Public funding for RD&D
  - Business funding for RD&D on climate technologies in developed countries
  - RD&D in developing countries
  - RD&D for globally significant climate technologies
  - Increased investment in demonstration of technologies globally

- **National policies to stimulate deployment of climate technologies in developed countries**
  - Financial support for technology deployment in developing countries
  - Measures to stimulate global deployment of selected technologies
  - Carbon financing
  - Investment facilitation
  - Concessional financing
  - Technology transfer funds
  - Export credit agency reforms

### Examples of existing mechanisms

- National government RD&D programmes
- International technology initiatives/organizations (IEA-IA, APP, etc.)
- Business RD&D activities
- UNIDO/UNEP Cleaner Production Centres
- Cool Earth Partnership (Japan)

### Examples of new and enhanced mechanisms

- Targets for the provision of financial support for RD&D in developing countries
- Targets for reducing or eliminating support for RD&D for environmentally harmful technologies
- RD&D window of a technology fund
- Pooling of national RD&D funding
- Mitigation and adaptation policies that create incentives for increased RD&D
- Investment risk sharing tools
- Intellectual property sharing and purchasing
- Public-private partnerships
- Scientific and technical exchange programmes
- Innovation prizes
- Technology agreements and financial support for implementation of global technology roadmaps

- Public venture capital or equity window of a technology fund
- Scaling up the Convention's financial mechanism
- Credit line for subordinate debt within a technology fund
- Investment risk mitigation incentives for emerging technologies and markets
- Coordinated public procurement programmes
- Financial support for deployment of selected technologies and NAMAs in developing countries
- Investment guarantees
- International project development facility
- Purchase of licences or patents
- Global energy efficiency standards
- Trade policy – elimination of tariff and non-tariff barriers
National Plan and Program Focused

Developing Country Plans
- National technology plans
- National focal points & institutions

Developed Country & Multilateral Programmes

UNFCCC Institutional Arrangement

Private Sector & NGO Programmes

Coordinated implementation through UNFCCC & distributed programs

National Programmes
- Policies and deployment programmes
- Training and education initiatives
- RD&D
- Technology assessment & decision tools
- Financing and business and project development support

Sectoral Global & Regional Programmes
- Networks of centers
- RD&D cooperation
- Training
- Information & assessment

Financing Global & Regional Programmes
- Investment matchmaking & advisory services
- Funds and linkage to emission trading
- Investment risk mitigation vehicles
Example of Contents and Roles of National Technology Plans

- National technology plans can be integral parts of NAMAs or national adaptation strategies or separate, but linked plans

- Examples of plans roles/contents
  - Identify focal points
  - Define priority technologies
  - Describe contribution of technologies toward adaptation and mitigation goals
  - Identify barriers and current and planned national programs to address barriers for each priority technology
  - Describe current international programs and opportunities for further international cooperation for priority technologies
  - Recommend approaches to couple national and international programs
Barriers to technology transfer most commonly identified by Parties

- Economic/market
- Human
- Information/awareness
- Institutional
- Regulatory
- Policy-related
- Technical
- Other
- Infrastructure

Number of Parties

0 10 20 30 40 50 60
IPRs in the negotiating text

Option 1:
- Promoting DTT by operating the intellectual property regime in a manner that encourages development of climate-friendly technologies and simultaneously facilitates their diffusion and transfer to developing countries.

Option 2:
- Removing barriers to DTT from developed to developing country Parties arising from the IPR protection, including:
  (a) Compulsory licensing for specific patented technologies;
  (b) Pooling and sharing publicly funded technologies and making the technologies available in the public domain at an affordable price;
  (c) Taking into account the example set by decisions in other relevant international forums relating to IPRs, such as the Doha Declaration on the TRIPs Agreement and Public Health;

Option 3:
- LDCs should be exempted from patent protection of climate-related technologies for adaptation and mitigation, as required for capacity-building and development needs.
LCA Negotiation text, example

Alternative to subparagraph 188 (b):
[Creation of a “Global Technology Pool for Climate Change” that …ensures access to …trade secrets to developing countries including on non-exclusive royalty-free terms…]
(c) Taking into account … forums relating to IPRs, such as the Doha Declaration on the TRIPs Agreement and Public Health;
(c).1 Preferential pricing.
(c).2 Reviewing all existing relevant IPR regulations in order to provide certain information to remove the barriers and constraints that GHG mitigation technologies are subject to.
(c).3 Promoting innovative IPR sharing arrangements for joint development of Environmentally Sound Technologies.
(c).4 Differential pricing between the developed and developing countries.
(c).5 Promoting Joint technological or patent pools for the development and transfer of technologies to the developing countries at low cost.
(c).6 Limited/reduced time patents on climate friendly technologies.
(c).7 Exclusion from patenting of climate friendly technologies.]
The Gap
Number of patent applications in relevant technologies

<table>
<thead>
<tr>
<th>Year</th>
<th>Total worldwide</th>
<th>Emerging economies</th>
<th>Low-Income countries</th>
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<tbody>
<tr>
<td>1998</td>
<td>9.118</td>
<td>342</td>
<td>3</td>
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<tr>
<td>2002</td>
<td>19.982</td>
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<tr>
<td>2007</td>
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<td>3.439</td>
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<td>2008</td>
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<td>4.037</td>
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</table>
There are many substitute technologies
Relatively large potential in emerging and developing economies
Implications of the Gap

**Hardly any patents registered in low-income countries**

- Patents not obstacle: no applications
- Relaxing the patent regime would not have any impact
- There are other reasons:
  - Insufficient technical knowledge and absorption capacity to produce these technologies locally
  - Insufficient market size to justify local production
  - Limited purchasing power
Closing the Gap

Fast growth of patents in emerging economies

- In 2008: 1 patent of 5 in emerging economies
- 1/3 emerging economies patents owned by those country residents
- Spectacular growth in patenting in China
- Not weaker but stronger IPR enforcement would benefit emerging economies
Conclusions

- Patents are hardly used in low-income countries
- Economic factors explain low technology transfer
- Use economic instruments to address this

- Patents growing fast in emerging economies, esp. in China
- Local ownership growing fast too
- Strengthening patent enforcement would benefit them
THANK YOU