Role of Patents in Green Technology Transfer in the Context of Climate Change

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Outline

- Overview of the **key role of technology** in the intergovernmental climate change process

- **How** should IPRs and Patents related aspects be handled in the international context of climate change?

Climate change science

The IPCC's findings told the world that there is no time left to waste.

- Climate change is unequivocal
- Unmitigated climate change will threaten our survival
- Impacts are "very likely" to increase
- Impacts will destroy economic gains
- Current climate change abatement will not suffice:
  - 1970 – 2004: emissions increase of 70%
  - Projection up to 2030: emissions increase of 25-90%

Global Energy Demand

Environmentally sound technologies are central to addressing climate change

- IEA reference scenario:
  - energy demand to grow by **60%** by 2030
  - up to 2030: energy supply infrastructure needs investment of USD20 trillion, **more than half in developing countries**
- Mitigation technologies
- Adaptation technologies

Relevant provisions of the UNFCCC

Article 4.5

- "The developed countries and other developed countries 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."…

Article 4.7

- "The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments related to financial resources and transfer of technology…"

Relevant provisions of the UNFCCC

Article 4.1 (c): All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:

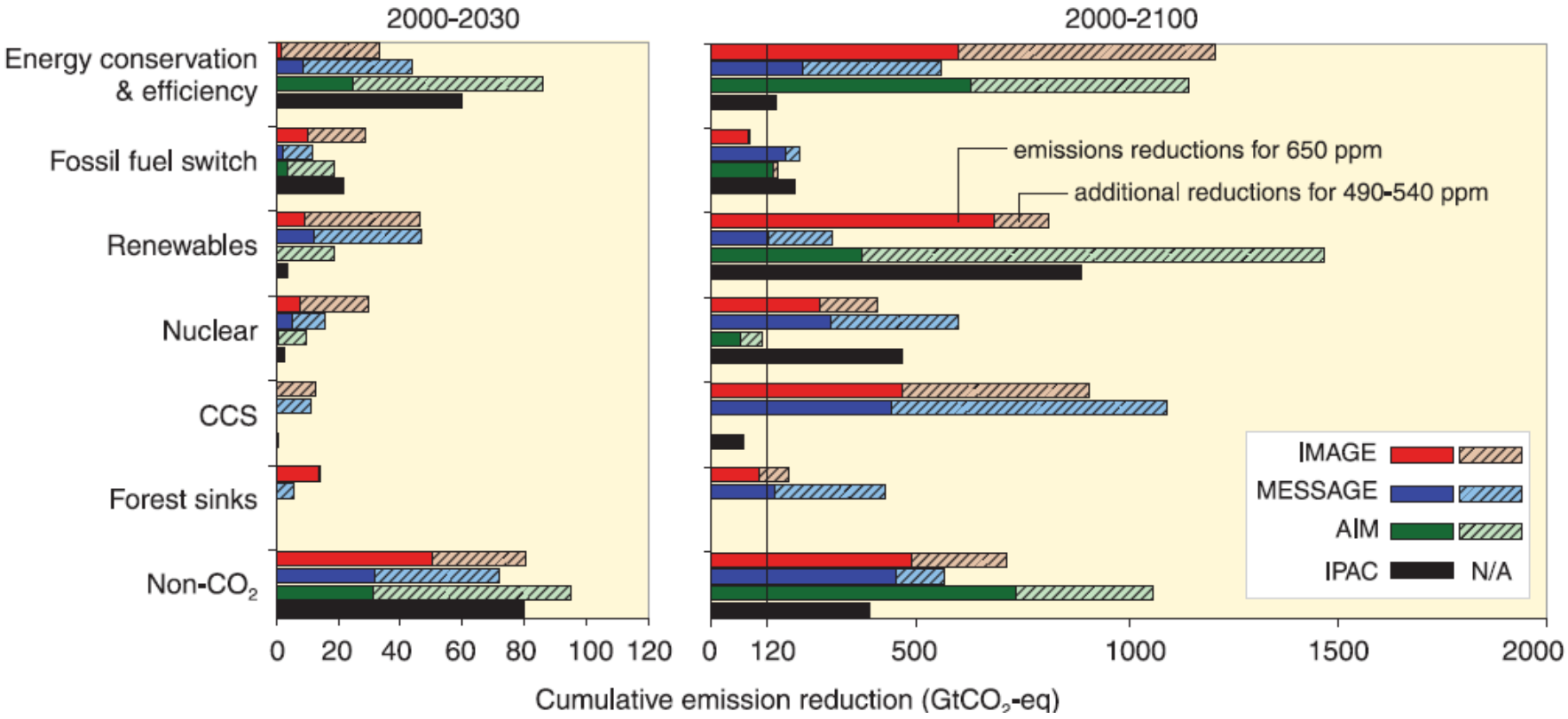
"*Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, forestry and waste management sectors*"

Technology and international climate policy

Technology features strongly in the inter-governmental process on climate change

- The **UNFCCC** and its **Kyoto Protocol** provide opportunities for cooperation on technology:
  - development, deployment and diffusion
  - both for mitigation and for adaptation

Technologies for mitigation



- There is high agreement and much evidence that all stabilisation levels assessed can be achieved by deployment of a **portfolio of technologies** that are either currently available or expected to be commercialised in coming decades, ... {IPCC WGIII SPM}

Technologies for adaptation

- A range of technologies are also crucial for adaptation:
  - **Traditional technologies** consist of the many approaches that have been developed and applied to adapt to weather hazards in traditional societies.
  - **Modern technologies** are those that have been newly created since the industrial revolution including many new, synthetic materials, new chemicals, new varieties of crops (e.g. hybrid corn) and new water use technology (e.g. drip irrigation).
  - **High technologies** are some of the more recently developed technologies that derive from scientific advances in recent decades including information and communication technology, earth observation systems and geographic information systems (GIS), genetically modified organisms, and the like.
  - **Future technologies** are those that are yet to be invented or developed. They might include a malaria vaccine, or various forms of geo-engineering to reduce climate impacts, or crops that need little or no water.

The Technology Transfer Framework

- COP7 (2001) adopted a framework for meaningful and effective actions to enhance the implementation of Article 4.5 of the Convention
- The framework contained five key activities: technology needs assessments, technology information, enabling environments, capacity building, and mechanisms for technology transfer)
- Establishment of an expert group on technology transfer (EGTT)

Technology Needs Assessments

- The UNFCCC secretariat prepared a second synthesis report on technology needs that has been made available at the thirtieth session of the Subsidiary Bodies in Bonn in June 2009

- This second synthesis report focuses on technology needs identified in 69 completed Technology Needs Assessments (TNA) reports, as well as in 39 national communications submitted by non-Annex I Parties

- The report highlights the priority technology needs identified in various sectors to reduce greenhouse gas emissions and to facilitate adaptation to the adverse impacts of climate change

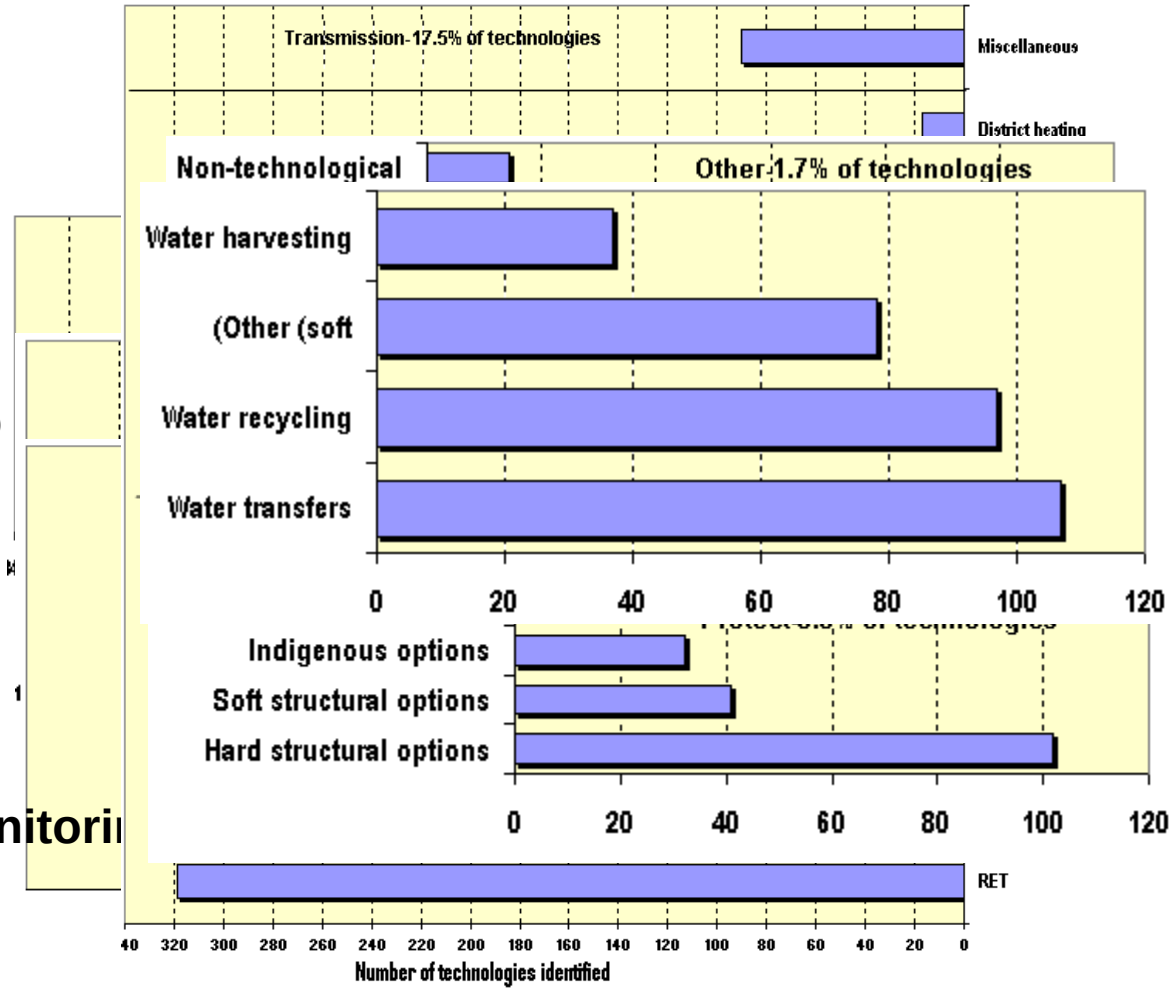
Technologies identified in TNAs

For mitigation:

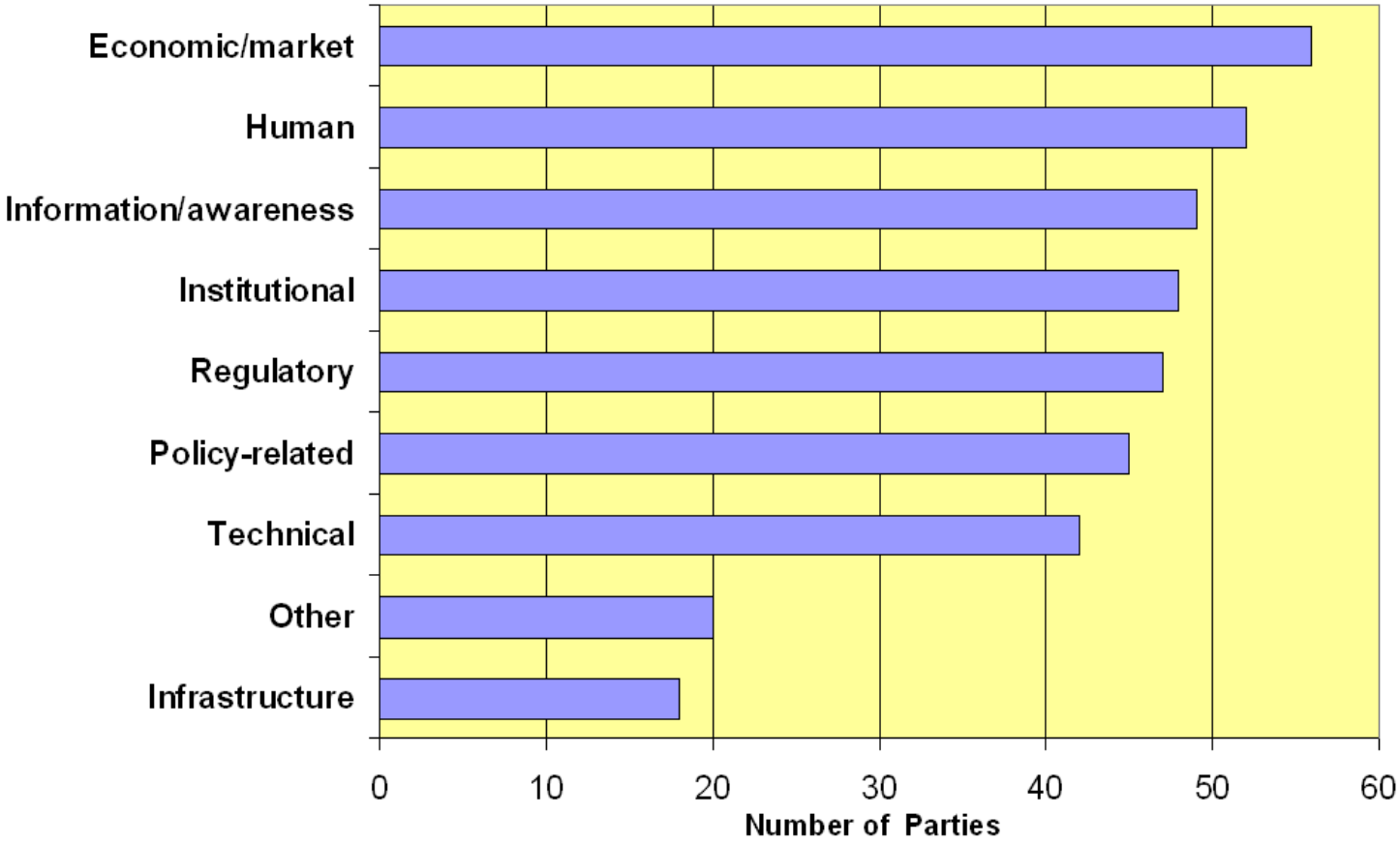
Energy sector 42%
Agriculture and forestry Sector 25.5%
Transport sector 12.7%
Industry sector 11.5%
Waste management sector 7.9%

For adaptation:

Agriculture and forestry Sector 43.3%
Coastal zone sector 15.8%
Water sector 14.8%
Systematic observation and monitori
Health sector 9.1%
Natural disasters sector 4.3%



Barriers to technology transfer most commonly identified by Parties



The way forward – technology under BAP

- Enhanced action on technology development and transfer to support action on mitigation and adaptation, including, inter alia, consideration of:
  - 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;
  - Ways to accelerate deployment, diffusion and transfer of affordable environmentally sound technologies;
  - Cooperation on research and development of current, new and innovative technology, including win-win solutions;
  - The effectiveness of mechanisms and tools for technology cooperation in specific sectors;

The way forward – key issues under AWG-LCA

- Institutional arrangements
  - A constituted body with decisive or advisory functions
- Financing development and transfer of technologies
  - Role of public and private finance
  - Create a new specialized technology fund under the Convention or strengthen existing financial arrangements or a combined approach
- Concrete support actions
  - How to link the support with action on mitigation and adaptation
  - Cooperative RD
  - IPRs: Strong enforcement of IPR protection or some flexible arrangements in the context of CC
  - …

Close relation between technology transfer and IP

- The term "technology transfer" refers to a broad set of processes covering the flows of **know-how, experience and equipment** for mitigating and adapting to climate change … It comprises the process of learning to **understand, utilise and replicate** the technology, … (IPCC)
- The term intellectual property refers broadly to the **creations of the human mind**. Intellectual property rights **protect** the interests of creators by giving them property rights over their creations. (WIPO)

Some proposals on flexible IP regime in the context of climate change

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 arouse 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.

How to address IP issues in the UNFCCC

- What are experiences on IP in other processes, particular involving public interests? How could the UNFCCC process be informed?
- How to better understand the concerns of both developing and developed countries behind the IPR issue and is there an innovative approach that could help to address these concerns?
- Are there any good practices on this matter from industry that could help to bridge the gaps?

Technology in the Copenhagen agreement

- Enhanced action on technology development and transfer will play a key role in post 2012 agreement
- IPR-related issues have been discussed in a theoretical manner
- The process needs clarity on **the role of IP in enhancing technology action** to support action on mitigation and adaptation
  - If IP are incentives to promote innovation, what arrangements could be put in place to ensure access to these patented technologies needed for enhancing action particularly by developing countries in their mitigation and adaptation to climate change.
  - How to balance incentives for innovation and obligations under the climate change regime?
- The **role of the UNFCCC and IP in the forthcoming Copenhagen agreement**?

Thank you

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