



**European Patent Forum
Ljubljana, Slovenia, 7 May 2008**

**Address by Yvo de Boer, Executive Secretary
United Nations Framework Convention on Climate Change**

Excellencies, ladies and gentlemen,

Thank you to the European Patent Office for inviting me to give you an overview of the key role of technology in the intergovernmental climate change process. I will also use this opportunity to request your views on how IPR issues should be handled in our process to enable technology to be at the heart of the solution to climate change.

The findings released by the Intergovernmental Panel on Climate Change (IPCC) last year told the world that there is no time left to waste.

The IPCC concluded that human-induced climate change is a reality and that unmitigated climate change will threaten our very survival. Climate change impacts are “very likely” to increase due to increased frequencies and intensities of extreme weather events. Impacts have the potential to destroy livelihoods and undo economic progress.

A mere continuation of current climate change abatement and adaptation efforts will not suffice. The IPCC found that between 1970 and 2004, emissions of greenhouse gases have increased by 70% (24% since 1990). CO₂, being by far the largest source, has grown by about 80% (28% since 1990).

Without concerted global action, GHG emissions are projected to increase by 25-90% by 2030 relative to 2000. Fossil fuel dominance is expected to continue to 2030 and beyond, hence CO₂ emissions from energy use are projected to grow by 40-110% over that period.

According to the reference scenario of the International Energy Agency (IEA), global energy demand will grow by 60% by 2030. In the period up to 2030, the energy supply infrastructure world-wide will require a total investment of \$20 trillion, with about half of that in developing countries.

The way in which global energy needs are met will determine whether climate change will remain manageable and whether emissions will go down by the required 50% by 2050 instead of up by 50%.

Environmentally sound technologies (ESTs) are central to addressing climate change

In terms of reducing vulnerability, much can be achieved with appropriate adaptation technologies.

In terms of mitigation, cleaner technologies and energy efficiency can provide win-win solutions, allowing growth and the fight against climate change to proceed hand in hand.

The world needs an urgent global low-emissions economic development plan as a central component of a solution to climate change. This would ensure that climate change abatement does not threaten economic growth. Such a plan is inconceivable without technology at its heart.

According to the IPCC, stabilisation levels of greenhouse gas emissions can be achieved by deployment of a portfolio of technologies that are either currently available or expected to be commercialised in coming decades, assuming appropriate incentives are in place.

However, there are currently a number of barriers to the deployment and diffusion of environmentally sound technologies, which include human behaviour, the absence of appropriate policies and legal and regulatory frameworks and the need for investment in infrastructure necessary for new energy technologies. IPR- and patent-related issues may also be barriers.

So, how can technologies be drawn into the market that will make a significant contribution towards achieving emission reductions of 50% by 2050? And how can technology development and transfer be enhanced?

Ambitious, binding targets for industrialised countries are most likely to rapidly push technologies into the market. Additionally, the deployment and diffusion of technologies also require additional investments in R&D both from the public and private sector.

Yet given that technology transfer to developing countries needs to be scaled up urgently, the barriers, including IPR and patent-related issues, need to be swiftly overcome.

Technology features strongly in international climate policy

Both the United Nations Framework Convention on Climate Change and its Kyoto Protocol provide ample opportunities for Parties to actively cooperate in the development, deployment, diffusion and transfer of environmentally sound technologies to mitigate and adapt to climate change.

At the United Nations Climate Change Conference in Bali last year, Parties launched a two-year negotiating process aimed at enhancing the international response to climate change. Also called the “Bali Road Map”, the process is set to conclude in Copenhagen in 2009.

Under the Bali Road Map, Parties agreed to enhanced action on mitigation:

- Industrialised countries would do this through measurable, reportable and verifiable mitigation actions, including quantified emission limitation and reduction objectives.

- Developing countries would do this through:
 - Nationally appropriate mitigation actions in the context of sustainable development, supported and enabled by technology, financing and capacity building, in a measurable, reportable and verifiable manner.

Resulting from the process and its structure, the following situation has emerged: the more ambitious industrialised country commitments are, the bigger the financial and technological support will be, the more engagement we can expect from developing countries. And the more developing countries engage, the more ambition can be expected from industrialised countries.

In realistic terms, this means that measurable, reportable and verifiable mitigation action by developing countries can only be expected if there is measurable, reportable and verifiable financial and technological support.

Technology has thus become one of the central elements, which will move the climate change process forward and needs to be urgently boosted.

Put differently, the two-year process presents an important opportunity to strengthen technology approaches that significantly scale up development and transfer of technologies. Importantly, it needs to enhance the access of developing countries to affordable technologies and facilitate international technology cooperation. It thus needs to include workable solutions for handling IPRs.

Technology needs a revolutionary push!

Many Parties have criticized that insufficient progress has been made on technology transfer.

The key is to put in place an effective international mechanism for the development and transfer of technologies. Such a mechanism needs to include the removal of barriers to, and provision of predictable financial resources and other incentives for, scaling up the level of investment on environmentally sound technologies to developing countries.

A Copenhagen agreement in 2009 needs to contain effective language that will unleash the full potential of technology.

The development and transfer of technologies needs to be approached in an integrated manner, by addressing all the stages of the technology development cycle from technology innovation to application and by considering funding and policy aspects specific to each stage.

Enabling technology transfer is not just about financing transfers, but also about tackling the main barriers in the technology originating and receiving countries.

Parties have cited IPR and patent-related issues to be barriers. The climate change process needs your input on how to address the complex issue of intellectual property and patents for climate friendly technologies.

To begin, are intellectual property rights (IPRs) a barrier to the transfer of technologies to developing countries?

At the Bangkok Climate Change Talks last month, several developing country Parties¹ identified IPRs as a barrier to technology transfer that needs further consideration, including in the following areas:

- Regulating the patent regimes to balance rewarding technology innovation with access to a common public good.
- Removing barriers to accessing technologies in the public domain.²
- Increasing access to clean technologies by providing compulsory licenses for these technologies.³

Developed country Parties identified IPRs as a key element necessary to stimulate and reward technology innovation and to promote technology competition.

The issue of IPRs is not new: Agenda 21, as agreed at the Rio Earth Summit in 1992, calls for enhanced access to and transfer of patent protected Environmentally sound technologies (ESTs), purchase of patents and licenses on commercial terms for their transfer to developing countries on non-commercial terms and undertaking measures to prevent the abuse of IPRs.

There are a number of conflicting views on IPRs

Those in favour of IPRs for technologies generally hold that a strong IPR protection is needed to stimulate and reward innovation. There is also a view that strong IPR protection would help deploy advanced technologies.

Views opposing IPRs for technologies maintain that IPRs make it more difficult to secure access to a global public good and that IPRs prevent developing countries from accessing affordable and adequate technologies.

Why IPRs may not be a barrier for the transfer of and access to environmentally sound technologies

Views expressed by Parties include:

- Many existing climate friendly technologies are not protected by patents and therefore IPRs may not be relevant.
- IPRs are a small part of the total capital requirements for low GHG technologies and even when patented, these patents were not a major concern either to importers or exporters.⁴

¹ Cuba, Indonesia, Brazil, India, Saudi Arabia, Pakistan, China.

² Saudi Arabia, Pakistan.

³ Brazil, India, Saudi Arabia.

- The level of tacit knowledge not covered by the patent may prevent effective transfer rather than the IPR cost itself.⁵

Do we need a special patent regime for climate change?

Comparisons are often made to the situation regarding patents for HIV/AIDS drugs. However, the situation with HIV/AIDS drugs was different in that public health was put before IPRs by means of a WTO Ministerial declaration. This reinforced countries' liberties to waiver requirements in cases of national emergencies or extreme urgency.

With regard to environmentally sound technologies, such a case has not been made. Nonetheless, the question whether special IPR arrangements in the context of climate change are needed, remains. The overriding aim needs to be to put in place practical arrangements for accelerated technology transfer to take place.

Parties to the Convention may address this question as part of the two-year negotiating process. Some issues that could be discussed include:

Is public ownership of IPRs for ESTs possible (can governments buy out IPRs)?

Public-private partnerships (PPPs) are useful in such settings and here a comparison to the pharmaceutical sector does apply. Options include:

- Purchasing commitments (e.g. power purchase agreements) as an incentive for the development of new technologies;
- Voluntary buy-out of IPR for existing technologies (governments agree a price with the IPR holder to buy all or limited rights to the IPR);
- Compulsory licensing (government forces the holder of the IPR to grant use to the state or others. Usually, the holder does receive some royalties, either set by law or determined through some form of arbitration).

Some positive experience has been reported with purchasing licences for small coal-fired boilers in China⁶. It proved useful because a proper enabling environment was established by the recipient country.

In which cases could public ownership of IPRs for ESTs be problematic? In which cases not?

Views expressed by Parties include:

⁴ Exporters were willing to accept the risk of patent infringements, as by the time a process had been copied, it will have been overtaken; importers of patented technologies did not generally find royalty fees to be a major obstacle, and were more concerned about other costs, such as that of capital investments in new plants and machinery.

⁵ Tacit knowledge ensures that transfer requires the co-operation of the IPR owner, and may mean that joint ventures and strategic programmes to enhance the capacity to manufacture and operate the equipment are the most effective means of accelerating the diffusion of key technologies

⁶ This agreement was part of a commercial transaction under which that technology was accessed under well-defined conditions. It was therefore a commercial practice that did not affect the ownership of the IPRs for that technology.

For key existing mitigation technologies PPPs for buying IPR rights could be problematic and less suitable for public funding of IPRs or compulsory partnerships.

- For technologies such as electricity generation, IPRs generally represent a smaller component of cost due to the scale of the capital investments and running costs.
- Tacit knowledge and challenge of re-engineering advanced energy technologies could require continued co-operation with the owners of the technology.

The development of new technologies, particularly those with significant public funding, could be more conducive to public IPR ownership. As these technologies would be collaboratively developed, the IPR could potentially enter into joint ownership with the aim of making the IPR available as a free or low cost public good.

Some areas of adaptation, where there is a strong public good element, may also provide good reason to extend existing efforts to overcome IPR barriers (e.g. health impacts from climate change).

There are examples of IP issues for specific technologies

For renewable technologies, IP protection plays a different role than for cases from the pharmaceutical sector, used as reference by many developing countries. In the renewables sector, competition exists between a number of patented products as well as between various renewable technologies.

Patents don't target the basic technology but rather specific improvements to these technologies.

In the PV sector, developing countries have been able to enter the market (e.g. Tata-BP in India, Suntech in China).

For existing biofuels technologies, IP does not act as a barrier for developing countries. Brazil, Malaysia, South Africa have successful biofuels programmes. However, this situation may change for second generation biofuels where enzymes or new micro-organisms for breaking down lignin⁷ are likely to be patented.

The wind sector is the most challenging for developing countries. Although the existing industry leaders are hesitant to share cutting-edge technology, India, for example, used a portfolio of policies and measures to stimulate the creation of the local wind market with bilateral and multilateral support.

Some final thoughts on technology in future climate change abatement

Enhanced action on technology development and transfer to support mitigation and adaptation action will play a key role in the future climate change regime. Patenting inventions should be used as an opportunity in this context.

⁷ Substance in trees that holds cellulose fibers together

In the intergovernmental climate change process, we have been discussing IPR-related issues in a rather theoretical manner up to now. Some Parties maintain that IPRs constitute a major barrier, others maintain that they don't.

To move forward, we need clarity on where IPRs may prevent access to technologies and may affect the protection of a global public good. And we need clarity on where they don't. If IPRs are in fact a barrier, is that true for technologies for all sectors of the economy? And if IPRs are a barrier, how can that barrier be overcome? How should IPR-related issues be handled in the international climate change context, especially in view of a Copenhagen outcome?

New, internationally collaborative approaches to low carbon technology research and development may have a role to play in overcoming IPR issues in future at the same time as contributing to building technological capacity in developing countries.

However, we cannot only move on this at some stage in the future. Much progress in international climate change abatement depends on boosting technology transfer.

I would appreciate your ideas on how IPR-related issues could be handled in the international context in order to significantly scale up technology transfer under the climate change process.

How can a Copenhagen agreement unleash the full potential of technology and help the world get the technological break through that is needed in the face of climate change? The key is to get the discussion on technologies out of the methodological realm and turn it into practical action. It would be helpful to receive a paragraph from you for a Copenhagen outcome, reflecting what you think Governments should agree on IPRs.

Thank you
