The current issue of Nordic Environmental Law Journal is a special issue on *Climate Change and Intellectual Property Rights*: Legal Frameworks and Institutions for the Development and Transfer of Environmentally Sound Technologies. The journal issue is based on presentations made at an international conference on the topic organized by the guest editors and held in Sandbjerg, Denmark, from May 11 to 12, 2010. The conference was funded by The Danish Council for Independent Research | Social Sciences, JURFORSK and Aarhus School of Business, Aarhus University.

The conference brought together researchers and analysts within the fields of environmental law, trade law and intellectual property law to join forces in mapping climate change challenges and technological solutions in an interdisciplinary context. With a focus on both the problems and their solutions, the aim was to improve disciplinary interplay and to advance legal and institutional knowledge, drawing lessons from different areas of law for the appropriate role of technological innovation and technology diffusion in addressing climate change.

The first day of the conference emphasised *the legal toolbox of today* for addressing climate change. The guiding questions were the following:

- What are the barriers to innovation and transfer of environmentally sound technologies (ESTs) in current environmental law, trade law and IPR law?
- What role do IPRs play in the development of alternative energy technologies?
- What incentives other than IPRs can promote innovation in ESTs?
- How do trade regimes and the transfer and the dissemination of ESTs interact?
- How can we frame an emissions trading system with incentives to innovate?
- Who will ensure investment in ESTs for developing countries?

The second day aimed toward global solutions and social responsibility, addressed as the *legal toolbox of tomorrow*. Questions discussed in that regard were:

- How can we engage policymakers at intergovernmental legal institutions and supranational actors such as the World Trade Organization, the Climate Change regime, EU, the European Patent Organisation, United States Patent and Trademark Office..
- What new approaches or policy mixes can address global concerns and overcome differences in outlook or goals between developed and developing countries?
- Should changes to the WTO agreement on Trade-Related Aspects of Intellectual Property Rights be considered – and if so what changes?
- What new strategies or institutions are needed to support the 2007 Bali Action plan, which emphasises technological innovation and transfer as a key element in the context of climate change.
- Should new tools take the form of a binding commitment? Or should the choice of tools remain flexible?

The current special issue covers different topics from the toolboxes of both today and tomorrow representing many of the conference speakers'

contributions. Did the participants of the conference come any closer to a solution by putting the legal instruments in a toolbox of today and one of tomorrow?

Climate change is a major global environmental challenge. Mitigating global warming and adapting to its consequences will require major economic investment and, above all, clear and unambiguous determination on the part of policy-makers. With a challenge of this magnitude, multilateral cooperation is crucial, and a successful conclusion of global negotiations on climate change would be a crucial step towards achieving sustainable development for future generations. Technology development and transfer has been identified as a key element in the Bali Action Plan, which thus brings about the need to address trade and intellectual property rights (IPRs) in the context of climate change. During the conference it was argued that existing WTO rules provide members with some scope to take action on climate change. However, they do constrain domestic regulatory policy, and the debate about future institutional changes will be central to how effectively global environmental issues such as climate change will be addressed.

It is often thought that the very idea of exclusive rights brings the IPR lawyers and trade lawyers into collision with environmental lawyers - that exclusive rights may hinder the diffusion, if not the development, of green technologies. Thus, the IPR institutions will push the development in the wrong direction. However, bringing IPR, trade and environmental scholars together to discuss this cross-disciplinary theme did prove the benefit of ongoing discussion. As it turned out, researchers in the fields of IPR, trade law and environmental law do belong to the same species.

In spite of the conference's focus on IPRs, the conclusion must be drawn that IPRs are only one of many tools for combating climate change in so far as they can further investments in environmentally sound technologies. However, dissemination of such technologies may be hindered by the very same exclusive rights. Dealing with the latter problem will be precisely where the legal world's attention will be directed when we are discussing IPR as an instrument, among other instruments, to meet the challenges of climate change. By joining forces, the legal toolbox for combating climate change will contain schemes of emission trading, taxes, standards, investments, capacity building, corporate social responsibility, exclusive rights (protection of emerging clean technologies) and technology transfer.

Nevertheless, the conference papers point to the need for more empirical analysis of the prevalence of IPR in energy technologies and other climate-relevant sectors, and the extent to which specific climate projects in developing countries have been or are likely to be affected by IPR considerations. One step

in that direction, appearing after our conference and after the articles were written, is the study jointly conducted by The European Patent Office (EPO), the United Nations Environment Programme (UNEP) and the International Centre for Trade and Sustainable Development (ICTSD): *Patents and clean energy:bridging the gap between evidence and policy,* released September 30, 2010. The study found that over 80 percent of all clean energy innovations originate from just six countries – Japan, the United States, Germany, Korea, France and the United Kingdom - and the licensing survey found limited licensing activity to developing countries (Brazil, China and India). In a press release Achim Steiner, UN Under-Secretary General and Executive Director of the UN Environment Programme (UNEP) said:

"Far from being a drag on economies and innovation, international efforts to combat climate change have sparked technological creativity on low carbon, resource efficient Green Economy solutions. The challenge now is to find ways in which these advances can be diffused, spread and transferred everywhere so that the benefits to both economies and the climate are shared by the many rather than the few' (UUwww.epo.org.)."

The following will provide the reader with a brief introduction to the articles in the journal. We will leave it to our readers to decide whether the IPR/environmental/trade law discussion on climate change has been taken any further.

In *Regulating for Climate Change in Developing Countries: Appropriate Regulatory Strategies in the Context of Technology Transfer*, Han Somsen and Morag Goodwin focus on the step beyond intellectual property law to look at conditions and relevant regulatory strategies to facilitate take-up of new technologies in developing countries themselves. Working from what is known about the design of effective regulation in Europe and the little that is known about effective regulation in developing countries in the context of environmental law, they sketch out how regulatory design applies in the broader end of creating a legal toolbox in the context of climate change. They warn against the tendency to transfer sophisticated incentive-based regulatory "technology" from Western countries and urge closer attention to the political and administrative realities of developing countries, where simpler regulatory approaches may be more effective.

The second article has an international trade perspective. In *Intellectual Property and Climate Change from a Trade Perspective,* Ilona Cheyne discusses the implications of the TRIPS agreement. As IPRs are often accused of being an obstacle to tech transfer, Cheyne considers whether TRIPS might constrain or assist WTO members in transferring climate change technologies. Reviewing the TRIPS provisions, her pragmatic conclusion essentially states that from the

current international trade perspective TRIPS is providing members of the WTO with significant discretionary power and that the agreement may be positively beneficial by promoting confidence through balance and predictability.

In the third article, Marianne Levin focuses on intellectual property rights in 'green' treaties – taking the readers from Rio to Copenhagen. The article *Intellectual Property Rights (IPR) – Another Untested Hurdle in Copenhagen* addresses the growing awareness of IPR at all levels as challenging the system. Levin argues that this awareness also advanced several important statements during the last years, such as for example a public health amendment to TRIPS, the WIPO Development Agenda and the WHO global strategy on public health, innovation and intellectual property. The relationship between environmental degradation and climate change is at risk of becoming the next big IP confrontation after pharmaceuticals.

Innovation, green technologies and transfer of technology are all important factors in combating global climate change. In his article *Climate Change and Intellectual property after COP 15: In Search of a Workable Framework for the Transfer of ESTs,* Mohammad Monirul Azam directs attention to the lack of investment capacity for R&D on ESTs in developing countries and the imbalance between owners and users of protected environmentally sound technologies. From the context of international environmental law and intellectual property law, the article offers proposals to guide climate negotiation and transfer of ESTs.

In the fifth article, *Designing Substantive Patent Law: From Life Sciences to Climate Change?,* Tine Sommer emphasises that there are lessons to be learned by future lawmakers and policymakers working in the field of climate change. Changing substantive patent law in order to green the face of patent law may turn out to be a bad solution. When discussing patent law it is necessary to determine whether changes are required in the pre-grant phase or in the post-grant phase. So far, previous experiences with the pre-grant phase do not point to substantive changes.

Addressing the question of how to engage policymakers and supranational actors working across multiple intergovernmental legal institutions, Catherine Rhodes, in the sixth article, *Opportunities and Constraints for Cooperation between International Organizations,* argues that most challenges cut across the remit of several international organizations, thus requiring coordination. Rhodes examines cooperation between international organizations in two areas, genetic resources and biofuels, to highlight key policy issues in this increasingly important form of governance..

In their article, *Common but Differentiated Responsibilities and Respective Capabilities as Part of the Post-2012 Climate Regime,* Ellen Margrethe Basse & Sanford E. Gaines look at technology transfer through the lens of the CBDR principle that guides action on climate change based on different responsibilities for developed and developing countries. The Kyoto Clean Development Mechanism (CDM) is consistent with CBDR but has not been effective enough to date. International negotiators have developed some mechanisms and are discussing others that may enhance incentives for technology transfer, including monitoring of "nationally appropriate mitigation actions" for developing countries and possible sector-based carbon market systems to reduce emissions below "business as usual" practices.

Finally, the last contribution is a case study of the efficiency of the Brazilian National Program of Biodiesel. In the article, *Global Concerns and Renewable Energy Policies: The Use of Regional Vegetal Resources to Create Growth Zones in Developing Countries,* Fernando do Rego Barros Filho states that the replacement of the current world energy model based on fossil fuels with non-carbon energy is a global issue and that law as a social life organizer has an instrumental function. Thus, a legal framework for biofuels must respect ecologic balance, economic viability, social inclusion and culture preservation. The article analysis is devoted to the possibility and viability of local renewable resources to develop its host regions.

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