

Intellectual Property Rights and Green Technologies from Rio to Rio: An Impossible Dialogue?

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Introduction

Although technology transfer and innovation feature in the final outcome of the Rio+20 United Nations Conference on Sustainable Development (UNCSD), 20-22 June 2012, intellectual property rights (IPRs) - which are closely related to them - are barely mentioned. In contrast, Agenda 21, the blueprint for sustainable development adopted by consensus at the 1992 Rio Earth Summit, included several provisions on IPRs and green technologies. Does this mean that IPRs have become less significant? On the contrary, the importance of IPRs has dramatically increased during the past two decades with both countries and businesses prioritising innovation in their policies and strategies. So what happened at Rio+20? Why were countries not able to find any common ground on the role of IPRs as they sought to identify a path for accelerating sustainable development and achieving the transition to a green economy in the decades ahead?

This policy brief seeks to answer these questions by examining the evolution of the global debate on IPRs and green technologies from the Earth Summit in 1992 to Rio+20. It then makes some suggestions about how to foster a more constructive dialogue on this issue in the aftermath of the Rio+20 Summit.

Technology transfer and IPRs at the Earth Summit (1992) and beyond: from consensus to controversy

Promoting greater access to, and transfer of environmentally sound technologies (ESTs), in particular to developing countries, was a central concern at the 1992 Rio Earth Summit. Technology transfer is mentioned in Principle 9 of the Rio Declaration on Environment and Development. In addition, Chapter 34 of Agenda 21 was entirely devoted to the transfer of ESTs and outlined several objectives to be achieved in this area, including:

- To help to ensure the access, in particular of developing countries, to scientific and technological information, including information on state-of-the-art technologies;
- To promote, facilitate and finance, as appropriate, the access to and the transfer of ESTs and corresponding know-how, in particular to developing countries, on favourable terms, including on concessional and preferential terms, as mutually agreed, taking into account the need to protect intellectual property rights as well as the special needs of developing countries for the implementation of Agenda 21;



- To support endogenous capacity-building, in particular in developing countries, so they can assess, adopt, manage and apply environmentally sound technologies.¹

This wording, in different iterations, was mirrored in provisions contained in the Multilateral Environmental Agreements (MEAs) concluded at the time, including the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD). Both treaties have important provisions on technology transfer.²

It is in this context of promoting greater access to ESTs by developing countries that IPRs came to feature in Chapter 34 of Agenda 21. Box 1 includes key references to IPRs in Agenda 21.

The language on IPRs in Agenda 21 starts by emphasising the need to promote developing countries' access to technologies that are not covered by patents or lie in the public domain. It further stipulates that governments and international organisations should promote access and transfer of ESTs through measures such as the "purchase of patents and licences on commercial terms for the transfer to developing countries on non-commercial terms [...], taking into account the need to protect IPRs" and compulsory licensing, i.e the authorisation granted by a government allowing a third party to produce the patented product or process without the consent of the patent owner. Agenda 21 also specifies that compulsory licensing should be done in "compliance with and under the specific circumstances recognised by the relevant international conventions adhered to by States" and "with the provision of equitable and adequate compensation."

BOX 1: Key references to IPRs in Chapter 34 of Agenda 21.

BASIS FOR ACTION

34.9. A large body of useful technological knowledge lies in the public domain. There is a need for the access of developing countries to such technologies as are not covered by patents or lie in the public domain. Developing countries would also need to have access to the know-how and expertise required for the effective utilization of the aforesaid technologies.

34.10. 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 EST, in particular to developing countries, as well as to further exploring efficiently the concept of assured access for developing countries to EST in its relation to proprietary rights with a view to developing effective responses to the needs of developing countries in this area.

ACTIVITIES

34.18. Governments and international organizations should promote, and encourage the private sector to promote, effective modalities for the access and transfer, in particular to developing countries, of ESTs by means of activities, including the following:

- e. In the case of privately owned technologies, the adoption of the following measures, in particular for developing countries:
 - ii. Enhancement of the access to and transfer of patent protected ESTs in particular to developing countries;
 - iii. Purchase of patents and licences on commercial terms for their transfer to developing countries on non-commercial terms as part of development cooperation for sustainable development, taking into account the need to protect intellectual property rights;
 - iv. In compliance with and under the specific circumstances recognized by the relevant international conventions adhered to by States, the undertaking of measures to prevent the abuse of intellectual property rights, including rules with respect to their acquisition through compulsory licensing, with the provision of equitable and adequate compensation;

Source: Chapter 34, Agenda 21

1 Chapter 34, Paragraph 14, Agenda 21 at: <http://habitat.igc.org/agenda21/ch-34.html>

2 UNFCCC Articles 4.5 and 4.7 and CBD Article 16

The language on IPRs in Agenda 21 did not come out of a vacuum. It stemmed, in part, from the practical experience of several developing countries in the implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer (1987). Restrictive practices of a number of technology suppliers in industrialised countries made it difficult for some firms, particularly in India and South Korea, to obtain substitutes to CFC gases, which were to be phased out under the Protocol.³

Twenty years later, how has this language fared? Not very well.

Governments and international organisations provided no effective follow-up to the actions listed in this section of Agenda 21. In addition, the consideration of IPRs as possible barriers to the transfer and diffusion of ESTs, as construed in Agenda 21, has simply become unacceptable to most industrialised countries, which argue that the circumstances that led to such language were context-specific and have not occurred since. These views should be apprehended in the context of the broader debate over the continued relevance of some of the principles and priorities set in 1992. Even references to ‘technology transfer’ were challenged during preparations for Rio+20.

The UNFCCC, on its part, has witnessed a polarised discussion on the role of IPRs in the transfer of climate change technologies, particularly since the 2007 Bali Conference of the Parties (COP). Although there was agreement at the UNFCCC Cancun COP (2010) to create a Technology Mechanism (TM) to enhance the transfer and diffusion of climate change technologies for mitigation and adaptation, no consensus could be reached on any reference to IPRs in the final texts adopted by the Cancun and Durban (2011) conferences. And yet, IPRs continue to be raised in the meetings of UNFCCC bodies and in meetings of the Technology Executive Committee (TEC), the policy arm of the Technology Mechanism. Interestingly, the decision creating the TM makes no reference to chapter 34 of Agenda 21 and only refers to the relevant provisions of the UNFCCC, in contrast to

previous important UNFCCC COP decisions on technology transfer in 2002 (4/CP.7) and 2007 (4/CP.13).

Finally, in the Rio+20 preparatory process, many countries - both developed and developing - put forward language and proposals on IPRs in their submissions,⁴ but no agreement could be reached on any of them.

What happened?

The question begging to be asked is why did the relationship between IPRs and green technologies become so controversial? The following elements might help explain it.

The ever-growing importance of innovation and IPRs

The rise to prominence of innovation in the discourse and policies of governments, as well as the strategies and business practices of the private sector, is one of the most noticeable developments since the first Earth Summit. Innovation is now considered key to economic growth and to addressing pressing global challenges in a wide range of sectors spanning energy, health and agriculture.

As a result, the critical importance of IPRs, ‘the global currency of innovation,’⁵ has significantly increased. The number of IPRs applications worldwide has exploded, particularly in the area of patents. While there were only 25,419 applications under the Patent Co-operation Treaty (PCT) overseen by WIPO⁶ in 1992, they reached a total of 182,120 PCT applications in 2011.⁷ In a globalised knowledge-based economy, IPRs - and patents in particular - have become strategic assets for companies seeking to secure market shares and dominate competitors. This is particularly the case in the information technology sector, where concerns about the effects of the ongoing ‘patent wars’ on innovation have been voiced.⁸

The rising technological capabilities of China and emerging economies

Another striking development since Rio 1992 is the rise of technological capabilities in China and other

3 Jayashree Watal (2000). ‘India: The Issue of Technology Transfer in the Context of the Montreal Protocol’ in Jha, Veena and Hoffman, Ulrich (Eds.), pp. 63-76, *Achieving Objectives of Multilateral Environmental Agreements: Lessons from Empirical Studies*. Geneva: UNCTAD.

4 See *Innovation and Technology Transfer: Key Country Priorities for Rio+20 (2012)*. Information Note, ICTSD, at: <http://ictsd.org/downloads/2012/04/technology-transfer-and-innovation-key-country-priorities-for-rio-20.pdf>

5 The term is from David Kappos, the Director of the United States Patent and Trademark Office (USPTO) see: <http://www.innovationalliance.net/news-and-resources/speech-uspto-director-david-kappos-remarks-and-audience-q-innovation-alliance-con>

6 The PCT enables individuals and companies to file simultaneously patent applications in different countries. makes it possible to seek patent protection for an invention simultaneously in each of a large number of countries by filing an “international” patent application

7 <http://www.wipo.int/ipstats/en/statistics/pct/>

8 Richard Waters (2010). Patent wars: The curse of innovation, 16 May 2012, at: <http://www.todayonline.com/Commentary/EDC120516-0000008/Patent-wars--The-curse-of-innovation>

emerging economies. Of the top ten wind power companies in the world, four are Chinese (Sinovel, Goldwind, Dongfang Electric and United Power) and one is Indian (Suzlon).⁹ Among the top ten solar energy producers worldwide, seven are from China (LDK Solar, Suntech, JA Solar, Trina Solar, Yingli Green Energy, Hanwha Solar One, and Jinko Solar).¹⁰

However, despite the increase in manufacturing capabilities in emerging economies, industrialised countries continue to dominate innovation in clean energy technologies. Six OECD countries (Japan, US, Germany, the Republic of Korea, the United Kingdom and France) account for nearly 80 percent of patents filed in clean energy technologies.¹¹ Thus, it comes as no surprise that industrialised countries seek to retain innovation as a vital competitive advantage in the ‘clean energy race.’ In November 2010, US Energy Secretary Steven Chu said that the success of China and other countries in clean energy industries represented a new ‘Sputnik moment’ for the US, and required a similar mobilisation of American innovation.¹²

The shadow of the IP and public health debate

At the time of the 1992 Rio Summit, IPRs were still a relatively obscure technical issue confined to expert discussions. This changed significantly with the WTO Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS, 1994), whose provisions have had far-reaching effects on many public policy areas such as public health, the environment and agriculture.

The access to medicines campaign, which resulted in the adoption of the Doha Declaration on TRIPS and Public Health (2001), brought worldwide attention to the public policy implications of IPRs. However, it seems to also have cast a shadow over other international processes where IPRs come into play, including deliberations on technology transfer in the context of the UNFCCC and the Rio+20 process.

Countries and stakeholders with opposing views have made references to the access to medicines debate either to draw parallels with green technologies or, on the contrary, to refute the relevance of such comparisons.

This was particularly the case in the climate change discussions. For example, at a 2009 UN conference on climate change and technology transfer, the Prime Minister of India stated

Suitable mechanisms must be found that will provide incentives for developing new technologies while also facilitating their deployment in developing countries at affordable cost. Such an approach has been adopted successfully in the case of pharmaceutical technologies for the benefit of HIV/AIDS victims in developing countries. The moral case of a similar approach for protecting our planet and its life support system is equally compelling.¹³

At the other end of the spectrum, the Alliance for Clean Technology Innovation (ACTI) - a coalition of mostly multinational companies in clean technology products and services- has stated:

Given intense competition between and among clean technologies and a range of patented alternatives, parallels to Essential Medicines are false, and are based on the industrial policy and competitiveness objectives of their *demandeurs* only.¹⁴

In the run-up to the Rio+20 Summit, many developing countries were more cautious in drawing parallels to the access to medicines debate, apparently wary of a replay of the acrimonious debate at the UNFCCC. However, its shadow continues to loom in the background of the discussions, indirectly influencing the views of different stakeholders across the board.¹⁵

9 <http://www.mywindpowersystem.com/2011/10/the-10-major-wind-power-companies-in-the-world/>

10 <http://www.solarplaza.com/top10-estimated-module-production-capacity-2011/>

11 UNEP, EPO and ICTSD (2010). *Patents and Clean Energy, Bridging the Gap between Policy and Evidence*, at: <http://ictsd.org/i/publications/85887/>

12 Steven Chu (2010). “Is the Energy Race our new “Sputnik” moment?” National Press Club, Washington D.C., 29 November 2010. Available online at: http://www.energy.gov/news/documents/Chu_NationalPressClub112910.pdf

13 Prime Minister of India (2009). Address to the New Delhi High Level Conference on ‘Climate Change, Technology Development & Transfer’ 22 October 2009 at: <http://pmindia.nic.in/speech/content.asp?id=832>

14 The Alliance for Clean Technology Innovation (ACTI) (2010). Submission in Response to the Request of the Intellectual Property Enforcement Coordinator for Public Comments Regarding the Joint Strategic Plan, 24 March 2010 at: http://www.whitehouse.gov/sites/default/files/omb/IPEC/frn_comments/AllianceforCleanTechnologyInnovation.pdf

15 For instance, Brazil, in its submission to Rio+20 stated: IP plays a significant role in fostering technological innovation. Brazil recognises international protection of IPRs provided for primarily in the TRIPS Agreement of the WTO. Brazil also recognises that in some cases IP can create barriers to the dissemination and transfer of clean or socially relevant technologies, such as medicines. See: <http://www.uncsd2012.org/content/documents/BRAZIL%20Submission%20%20English%201.11.11doc.pdf>

The stalemate

As a result of the considerations outlined above, two seemingly irreconcilable viewpoints have come to dominate the debate on IPRs and green technologies.

On the one hand, IPRs are seen as an essential incentive for fostering green innovation and a *sine qua non* for any subsequent technology transfer and diffusion. This viewpoint calls for stronger and more effective IPR protection and enforcement.

On the other hand, IPRs are considered as possible barriers for the transfer and wider diffusion of green technologies and to 'affordable' access to them. From this perspective, a range of measures have been suggested to facilitate access, including the use of TRIPS flexibilities and the consideration of arrangements such as patent pools. Some of these options featured in developing country submissions to the Rio+20 preparatory process although these seemed to have adopted a more nuanced approach. For instance, the G77 and China submission argued that "consideration must be given to the role of patent protection and IPRs along with an examination of their impact on the access to and transfer of ESTs, in particular to developing countries." The submission did, however, stop short of characterising IPRs as a 'barrier' to the transfer of ESTs. A few developing countries, such as Bolivia, called for the removal of "intellectual property barriers" to the dissemination of ESTs in addition to the elimination of all forms of IP over life.

As a result of these diametrically opposed viewpoints, a stalemate has emerged that prevents any meaningful discussion on this issue in multilateral forums. For a number of key industrialised countries and some business interests, assertions and proposals about 'technology transfer', 'balanced' IP protection and the use of 'flexibilities' in international IP instruments are part of a vast 'anti-IP' movement that seeks to erode the competitive advantage of Western countries to the benefit of emerging economies, and China in particular. Their response strategy is to avoid any mention or discussion of IPRs in the context of multilateral debates on the green economy or on climate change. The importance of IPRs is minimised while attention is focused on innovation and

on other factors impacting technology diffusion such as enabling environments, finance and absorptive capacity.

Emblematic of this trend is the letter addressed by the President of the Intellectual Property Owners Association (IPOA) in the United States (US) to US officials on the eve of the Rio+20 conference urging them to keep "IPR off of the agenda of the Rio+20 negotiations" arguing that the conference "has become the latest forum with the potential of undermining IPR in the name of sustainable development and climate change."¹⁶

The problem with this viewpoint is that it tends to omit the fact that proposals to use TRIPS flexibilities and other arrangements to facilitate access to green technologies do not only come from developing countries but also from a variety of other sources. For instance, the recent World Bank report, *Inclusive Green Growth*, suggests the use of compulsory licensing and patent pools in the context of policies to facilitate access to green technologies. On compulsory licensing, it states:

Making it easier for countries to issue compulsory licenses under appropriate circumstances can help ensure more affordable access to patented green innovations by poorer households in low-income countries.¹⁷

In a similar vein, one of the early calls to examine TRIPS flexibilities in the context of access to climate change technologies was done by the European Parliament.¹⁸ More recently, the Greens in the European Parliament released a position paper on climate change, technology transfer and Intellectual Property (IP), calling European countries to adopt a flexible, innovative and effective approach, to enhance the diffusion of green technologies to developing countries.¹⁹

On the other end of the spectrum, some developing countries and NGOs have put an excessive emphasis on IPRs as the most important factor impacting access to green technologies by developing countries, which is not necessarily the case in many instances.²⁰ In addition, empirical evidence shows that there are few patents in clean energy technologies filed in the poorest developing countries.

16 Richard Phillips, Letter to US Secretary of State, US Secretary of Energy and USTR, 19th June 2012 at: http://www.ipo.org/AM/Template.cfm?Section=Board_Resolutions_and_Position_Statements&template=/CM/ContentDisplay.cfm&ContentID=33586

17 World Bank (2012). *Inclusive Green Growth, the Pathway to Sustainable Development*, p.78

18 European Parliament resolution of 29 November 2007 on trade and climate change (2007/2003(INI)).

19 Green Position Paper (2012). *Climate Change, Technology Transfer and Intellectual Property*, March 2012 at: <http://www.greens-efa.eu/climate-change-technology-transfer-and-intellectual-property-5484.html>

20 John Barton (2007). *Intellectual Property and Access to Clean Energy Technologies in Developing Countries: An Analysis of Solar Photovoltaic, Biofuels and Wind Technologies*. ICTSD Trade and Sustainable Energy Series Issue Paper No. 2. ICTSD, Geneva, Switzerland at: http://ictsd.org/downloads/2008/11/intellectual-property-and-access-to-clean-energy-technologies-in-developing-countries_barton_ictsd-2007.pdf

The end result is that this stalemate prevents the emergence of a middle ground that would move the debate beyond abstract generalities and rhetoric.

IPRs in the Rio+20 outcome

The outcome of the Rio+20 Summit reflects the general pattern outlined above. While the G77 and China wished to see IPRs addressed in the context of considering its impact on access to ESTs, a number of industrialised countries refused any mention of it.

In the final days of negotiations before the start of the summit, a compilation was prepared by the Brazilian Presidency (16th June) in an effort to reach a compromise between the different parties. The compilation retained the mention of IPRs and included language referring to “making use of existing flexibilities.”²¹ Industrialised countries insisted on the removal of the paragraph on IPRs and any mention of the TRIPS Agreement.

Ultimately, the Rio+20 outcome document only recalls the provisions on technology transfer, finance, access to information and IPRs as agreed in the Johannesburg Plan of Implementation (2002).²² The TRIPS Agreement is mentioned in a paragraph on access to medicines under the section on health and population (No. 142), but not in relation to green economies.

The reaffirmation of the commitment to fully implement Agenda 21 in the Rio+20 outcome would in theory extend to the provisions on IPRs in chapter 34, but this is unlikely to have practical effects. This minimalist approach on IPRs in the Rio + 20 outcome has been described as a “retreat” from the Earth Summit’s texts two decades ago.²³

However, it is important to note that the reference to IPRs mentioned above comes in a paragraph which emphasizes the importance of technology transfer to developing countries, the same context where they appear in Agenda 21. Intellectual property rights are not mentioned in the paragraph which recognizes the ‘the importance of promoting innovation, in particular in developing countries’ (paragraph 72).

Ultimately, the mere mention of IPRs in the Rio+20 outcome signals at least that it is an important and

relevant issue to the discussion about sustainable development and green technologies, in contrast to the situation in climate change negotiations where there is not even agreement on the mention of the term in the outcomes of UNFCCC meetings.

What to do?

Clear parameters are needed for a structured discussion

If there is a willingness on the part of key players to engage in a meaningful dialogue, then trust needs to be established through a number of clear ‘parameters’ that acknowledge the legitimate views of different stakeholders and do not prejudge the outcome of the discussions. Such parameters have been suggested in the context of efforts seeking to overcome the impasse in the discussion on IP and climate change at the UNFCCC.²⁴ While green technologies are more diverse than climate change technologies, most of these parameters would apply also to the Rio+20 process and its aftermath.

The parameters are based on the premise that there are indeed important differences between the public health and clean energy discussions. As a result of the great diversity of clean energy technologies, and the fact that they compete with each other as well as with traditional fossil fuel energy sources, patent ownership does not tend to confer as much power to the rights holder as it does in the pharmaceutical sector. At the same time, access to green technologies also represents an important public policy challenge and it seems unrealistic to simply seek to ‘evade’ a discussion about the role of IP in this context.

These parameters flow from the carefully crafted description of the role of IPRs as established by Article 7 of the TRIPS Agreement according to which “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.” From this

21 TWN Rio+20 News Update No.20 (2012). Tough fight over means of implementation, 22 June 2012 at: http://www.twinside.org.sg/title2/rio+20/news_updates/TWN_update20.pdf. Also: IP Watch (2012). Rio+20 Climate Talks Finish With Little IP; Flexibilities Under Fire, 25 June 2012. at: <http://www.ip-watch.org/2012/06/25/rio20-climate-talks-advance-with-little-ip-flexibilities-under-fire/>

22 *The Future We Want*, Outcome Document of the Rio+20 United Nations Conference on Sustainable Development, paragraph 73 (document A/CONF.216/L.1).

23 Matthew Rimmer (2012). Rio+20: Who owns the Green Economy? *The Conversation*, 25 June 2012 at: <http://theconversation.edu.au/rio-20-who-owns-the-green-economy-7742>

24 Abdel Latif et al.(2011).

perspective, it is not mutually exclusive to recognise and encourage the important role of IPRs in promoting green innovation, while at the same time considering more closely their impact on technology transfer and dissemination, against the factor of ‘affordability’. In this regard, it is difficult to reach categorical generalisations as the impact of IPRs varies according to many factors such as the technology in question, the sector, and country circumstances. Thus an examination of the role of IPRs in relation to diffusion of green technologies needs to be conducted on a case-by-case basis and in light of specific evidence.

In addition, multilateral discussions on sustainable development and climate change are not the appropriate venues for proposals that would modify international IP norms. Efforts to enhance the transfer and diffusion of green technologies in these discussions should take place in the framework of existing international rules established by the TRIPS Agreement, and flexibilities are an integral part of the balance of rights and obligations in these rules.

Finally, developing countries have different technological needs and capabilities. Green technologies also differ in terms of their commercial importance. Efforts and measures aiming at facilitating access to green technologies by developing countries need to also take these aspects into consideration.

Unless countries agree on ‘parameters’ to guide the discussion on IPRs and green technologies in a manner that doesn’t prejudge its outcome, the ‘stalemate’ at the multilateral level is likely to continue, even more so if it suits the interests of some key players.

In the meantime, countries could pay greater attention to a number of concrete initiatives and measures which seek to encourage green innovation in some cases and technology diffusion in others. They could be better reflected in future multilateral debates. Here are a few examples:

Improving access to technological information on green technologies

The need for accurate and publicly available information on ESTs, including IP and licensing, has been continuously voiced since 1992. In recent years, a number of initiatives have attempted to address

this need. In 2010, the European Patent Office (EPO) created a new classification scheme for patent documents relating to clean energy technologies in the context of the UNEP-EPO-ICTSD project on Patents and Clean Energy,²⁵ and WIPO established an IPC Green Inventory.²⁶ Both tools seek to facilitate searches for green/clean energy patents, which tend to span a wide range of industrial sectors.

However, establishing such classification schemes and research tools, as well as undertaking patent landscape studies, is a costly and complex task. It involves a wide and diverse set of actors such as governments, IP administrations, the private sector, international and regional organisations and NGOs. There is a need to foster more partnerships and collaboration between these actors. Reliable and accurate patent and technology data is not an end in itself, but an important component of an enabling environment for innovation and technology diffusion.

Facilitating licensing of green technologies

Licensing is an important channel for technology transfer and diffusion. Many studies have pointed out that negotiating licensing agreements on a case-by-case basis can be costly and time-consuming, particularly for developing country entities, which might lack adequate negotiating skills and expertise in this area.

The first global licensing survey in the area of clean energy technologies conducted by UNEP-EPO and ICTSD found an untapped potential of licensing towards developing countries. The report made a number of suggestions for making licensing more supportive of efforts to enhance technology transfer and dissemination.²⁷

There have been other initiatives in this area such as *WIPO Green*, a technology marketplace established by WIPO intended to facilitate the accelerated adaptation, adoption and deployment of environmental technologies, particularly in developing countries and emerging economies.²⁸ Easy access to technology, technical assistance, as well as licensing and financial support are listed among its benefits.

At the same time, some private sector initiatives have expressed support for “an international set of core contractual principles for business engaging

25 <http://www.epo.org/news-issues/issues/clean-energy.html>

26 <http://www.wipo.int/classifications/ipc/en/est/>

27 See Chapter 4, pp.58-63 and Chapter 5 pp.68-69, UNEP-EPO-ICTSD (2010).

28 <https://www3.wipo.int/green/>

in clean energy technology licensing in developing countries” (CEO Climate Policy Recommendations to G8 Leaders, July 2008, WBCSD/WEF).²⁹ Surprisingly, such suggestions about facilitating technology licensing have not found a wider echo in discussions on IPRs and green technologies.

Fast tracking of green patents

Since 2009, a number of patent offices, mainly in industrialised countries, have put in place schemes to fast track ‘green’ patent applications.³⁰ These include the UK IP office, the United States Patent and Trademark Office (USPTO), the Korean Patent Office, the Australian IP Office, the Japan Patent Office and the Canadian IP Office. In April 2012, the Brazilian National Institute of Industrial Property (INPI) announced a pilot programme to accelerate green patent applications. The objective is to encourage innovation in green technologies by bringing new products to the marketplace more quickly.

The implications of such schemes are still being debated and empirical evidence is still lacking on whether they are achieving their intended objective. Nevertheless, as a growing number of countries are adopting them, they merit closer examination.

Drawing on the experience of bilateral partnerships

While industrialised countries and emerging economies tend to argue about technology and IP-related issues at the multilateral level, several of them have established R&D and technology cooperation programs in the clean energy sector. For instance, the US and China announced in 2009 the creation of a US-China Clean Energy Research Center to facilitate joint research and development of green energy technologies by teams of scientists and engineers from the two countries.³¹ A US-China Renewable Energy Forum has also been established for exchanges and includes cooperation on IP matters related to clean energy. Similarly, the US

and India have launched a Joint Clean Energy Research and Development Center. It would be desirable to draw examples, practices and lessons from such partnerships, which could feed into multilateral debates in the future.

Open innovation for sustainability

Open innovation and open source approaches as well as other options such as patent commons and IP exchange platforms have received relatively little attention in policy discussions about efforts to enhance the diffusion of green technologies.³² Yet, in recent years, there have been some noteworthy initiatives in this area such as the Eco-Patent Commons launched by IBM, Nokia, Pitney Bowes and Sony in partnership with the World Business Council for Sustainable Development (WBCSD) in 2008,³³ and the GreenXchange platform launched by Nike and nine other organizations in 2010.³⁴ Lessons could be drawn from their experiences to better inform future initiatives in this area.

Conclusion

The mention of IPRs in the Rio+20 outcome document signals their relevance for efforts to achieve sustainable development. However, beyond the mere mention, a stalemate has developed about how to further characterize the role of IPRs in relation to green technologies.

This stalemate is not necessarily a fatality. Simply evading the issue is also not the solution. Clear parameters are needed to foster a more constructive and pragmatic dialogue. In the meantime, there are number of useful measures and initiatives that are being pursued on the ground that merit closer consideration. Intellectual property should be seen in a broader context of appropriate policies, adequate institutions and human resources to both encourage green innovation and to ensure that its benefits are widely diffused.

29 <http://www.undp.org.tr/publicationsDocuments/CEO%20Climate%20Policy%20Recommendations%20to%20G8%20Leaders%20July%202008-%20WBCSD.pdf>

30 Eric L. Lane. Building the Global Green Patent Highway: A Proposal for International Harmonization of Green Technology Fast Track Programs, *Berkeley Technology Law Journal*, Vol. 27, No. 3, 2012 at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2000919

31 <http://www.whitehouse.gov/the-press-office/us-china-clean-energy-announcements>

32 Krishna Ravi Srinivas. The role of open innovation models and IPRs in technology transfer in the context of climate change mitigation, in Haselip, J., Nygaard, I., Hansen, U., Ackom, E. (2011) (Eds.) *Diffusion of Renewable Energy Technologies: Case Studies of Enabling Frameworks in Developing Countries*. Technology Transfer Perspectives Series, UNEP Riso Centre, Denmark

33 See Eco-Patent Commons at: <http://www.wbcd.org/work-program/capacity-building/eco-patent-commons.aspx> and Bronwyn H. Hall and Christian Helmers, *Can The Patent Commons Help Eco-technology Diffusion*, ? United Nations University, October 2011, at: <http://unu.edu/articles/science-technology-society/can-patent-commons-help-diffusion-of-green-technologies>

34 See <http://greenxchange.cc/> and Roya Ghafele and Robert D. O’Brien. Open innovation for Sustainability: Lessons from the GreenXchange Experience, Policy Brief No. 13; ICTSD, Switzerland. Available at: <http://ictsd.org/downloads/2012/06/open-innovation-for-sustainability-lessons-from-the-greenxchange-experience.pdf>

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