3. Compulsory Licensing under TRIPS and Beyond

a) For Public Health

Additional to general conditions for patent exceptions under Article 30 of the TRIPS Agreement,[88] Article 31 provides conditions for 'other use'[89] of an invention without the approval of a right-holder upon authorization from the government. Article 31(b) waives the requirement of *ex-ante* efforts to obtain a license from a right-holder in cases of a national or other extreme emergency or public non-commercial use.[90] For example, countries have granted or considered granting compulsory licensing for pharmaceutical products treating malaria, HIV/AIDS,[91] anthrax,[92] bird flu,[93] cancer and heart diseases.[94]

As part of these conditions, TRIPS Article 31(f) stipulates that compulsory licensing shall be "predominantly for the supply of the domestic market."[95] In the context of public health, this provision resulted in restriction of the amount of drugs that could be manufactured and exported under compulsory licensing. It also made it difficult for LDCs with insufficient manufacturing capability to find suppliers under compulsory licensing. To address this issue, the WTO TRIPS Council adopted the Doha Declaration on TRIPS and Public Health in 2001[96] and, in 2003, the WTO General Council decided to waive the requirement under Article 31(f) so as to

88 TRIPS Agreement, *supra* note 8, at art. 30 (providing for such exceptions that they "do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties").

89 "Other use" refers to use other than that allowed under TRIPS Article 30.

90 TRIPS Agreement, *supra* note 8, at art. 31(b).

91 *See generally*, Frederick M. Abbott, *The Doha Declaration on the TRIPS Agreement and Public Health: Lighting a Dark Corner at the WTO*, 5(2) J. OF INT. ECONOMIC LAW 469 (Oxford University Press, 2002).

92 *See generally*, In re Ciprofloxacin Hydro chloride Antitrust Litigation, 166 F. Supp. 2d 740 (E.D.N.Y. 2001); Timothy J. Burger, *Chuck Pushes Plan to Let Other Firms Make Cipro*, N.Y. DAILY NEWS, Oct. 19, 2001, http://www.nydailynews.com/archives/news/2001/10/19/2001-10-19_chuck_pushes_plan_to_let_oth.html; *and* James Thuo Gathii, *Balancing Patent Rights and Affordability of Prescription Drugs in Addressing Bio-Terrorism: An Analysis of In Re Ciprofloxacin Hydro chloride Antitrust Litigation*, 13 ALB. L. J. SCI. & TECH. 651 (2003).

93 *E.g.*, Eileen McDermott, *Flu Crisis Could Lead to Compulsory Licenses*, MANAGING INTELL. PROP., May 3, 2009, http://www.managingip.com/Article/2193267/Search-Results/Flu-crisis-could-lead-to-compulsory-licences-full-version.html.

94 *E.g.*, The Ministry of Public Health and The National Health Security Office of Thailand, Facts and Evidences on the 10 Burning Issues Related to the Government Use of Patents on Three Patented Essential Drugs in Thailand (Feb. 2007); *and* The Ministry of Public Health and The National Health Security Office of Thailand, The 10 Burning Questions on the Government Use on the Four Anti-Cancer Drugs in Thailand (Feb. 2008).

95 TRIPS Agreement, *supra* note 8, at art. 31(f).

96 WTO, Ministerial Declaration of 12 November 2001, WT/MIN(01)/DEC/1, 41 I.L.M. 746 (2002) [hereinafter Doha Declaration].

enable cross-border compulsory licensing.[97] Sofar, this cross-border compulsory licensing option has been tested once for production and exports of generic HIV/AIDS medicines from Canada to Rwanda.[98]

b) For Climate Change?

Considering the public importance of climate change technology, it may be tempting to draw an analogy between public health and climate change for the purpose of dealing with IP issues. However, Abbott cautions that "[e]ven assuming *arguendo* that developing countries would support its transposition to the climate change arena, it would not seem adequate simply to declare [Article 31*bis* Amendment to TRIPS] to apply *mutatis mutandis*."[99] Indeed, while green technology transfer is key to the capacity of developing countries to address climate change, a number of considerations rather undermine the validity of the notion as such of a so-called Doha Declaration on Climate Change.

First, the role of IP protection in the pharmaceutical industry may be quite distinct from its role in the renewable energy sectors.[100] While a single non-substitutable patent can have significant impact in drugs by conferring strong market power to the patentee, the renewable energy sectors appear to experience a higher degree of competition and substitutability,[101] not only among patented products in the spe-

97 WTO General Council, Decision of 30 August 2003, WT/L/540 and Corr.1. *See also* TRIPS Agreement, *supra* note 8, at art. 31*bis*. *See also* WIPO, Committee on Development and Intellectual Property (CDIP) Fifth Session (Apr. 26-31, 2010), Patent Related Flexibilities in the Multilateral Legal Framework under Their Legislative Implementation at the National and Regional Levels, WIPO Doc. CDIP/5/4 (Mar. 1, 2010) and *as revised in* WIPO Doc. CDIP/5/4/Rev. (Aug. 18, 2010) (identifying countries which have implemented the outcome of this WTO General Council decision in national law, including Albania, Belgium, China, Croatia, France, Hungary, Iceland, India, Lithuania, the Netherlands, Norway, the Philippines, the Republic of Korea, Singapore, Switzerland, the former Yugoslav Republic of Macedonia and the United Kingdom).

98 WTO, TRIPS and Public Health: Dedicated Webpage for Notifications, http://www.wto.org/english/tratop_e/trips_e/public_health_e.htm.

99 Frederick M. Abbott, Innovation and Technology Transfer to Address Climate Change: Lessons from the Global Debate on Intellectual Property and Public Health 27 (ICTSD, 2009).

100 *E.g.*, John H. Barton, Intellectual Property and Access to Clean Energy Technologies in Developing Countries: An Analysis of Solar Photovoltaic, Biofuel and Wind Technologies 1 (ICTSD, 2007); *see also generally* Mark A. Lemley, Industry-Specific Antitrust Policy for Innovation (Stanford Law and Economics Olin Working Paper No. 397, 2010).

101 *Id*. at 13.

cific sector but also across traditional energy sectors and fungible alternate energy sources.[102]

Moreover, unlike the more matured pharmaceutical industry, the green technology industry is still in its early stages. Hence, its evolvement is perceived to be more comparable to "the semiconductor industry 35 years ago, or the biotechnology industry 25 years ago."[103] In this view, compulsory licensing at this early stage may hinder the green technology sectors from engaging in further innovation.[104]

Second, there are further differences from the area of medicines that are relevant to 'cross-border' compulsory licensing. Building wind farms or carbon capture storage facilities must cater to certain meteorological or geological conditions specific and sensitive to location. The challenge of efficient transportation of energy over long distance also burdens licensing schemes, although energy-delivering means such as smart grids are improving and increasingly attracting investment.[105] In this regard, more commoditized renewable energy products such as off-grid solar panels or certain components of wind turbines may be better candidates for international transactions. (As to solar panels, due in part to Chinese production, supply is expected to leapfrog demand.)[106]

Therefore, technology transfer programs in the form of turn-key construction projects (*e.g.*, a consortium between Gamesa and Iberdrola Ingenieria to build a wind farm in Kenya with financing from Spanish aid fund Fondos de Ayuda al Desarrollo),[107] foreign direct investment or joint ventures may offer more sustainable approaches for purposes of technology transfer.

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102 *E.g.*, Craig Waldman and Margaret Ward, *Antitrust Issues in Clean Technology*, The Antitrust Source (Apr. 2010), *available at* http://www.antitrustsource.com (observing that the enforcement agencies "will likely consider 'clean tech' as consisting of many markets whose contours will undoubtedly change as these sectors evolve over time"); *see also* Panasonic Corp. FTC Docket No. C-4274, File No. 091-0050, Jan. 6, 2010, *available at* http://www.ftc.gov/os/caselist/0910050.shtm (concerning the definition of a relevant market in the context of a merger investigation of cleantech companies).

103 Tim Wilson, *Undermining Mitigation Technology Compulsory Licensing, Patents and Tariffs* (Institute of Public Affairs IPA Backgrounder 2008), *at* http://www.apec.org.au/docs/08_IPAAASSC_MT.pdf.

104 *Id.*

105 *E.g.*, Scott Malone, *Google Joins $5 Billion US Offshore Wind Grid Project*, *Reuters*, Oct. 12, 2010, http://www.reuters.com/article/idUSTRE69B0ZA20101012.

106 *E.g.*, Press Release, IMS Research, Chinese Supplies Top IMS Research's PV Cell and Module Supplier Rankings in Q3, 10 (Jan. 4, 2011); Press Release, IMS Research, IMS Research's Solar Module Rankings: Suntech Reaches the Top in Q2 (Aug. 26, 2010); Press Release, IMS Research, First Solar Remains Largest Supplier in First Quarter (June 7, 2010); *see also* Renewable Energy Policy Network for the 21st Century (REN21), *Renewables 2010 Global Status Report*, 31 (2010).

107 *E.g.*, Ben Sills, *Iberdrola, Gamesa Win Wind Contract From Kenya Utility in $26 Million Deal*, Bloomberg, http://www.bloomberg.com/news/2011-01-07/iberdrola-gamesa-win-wind-contract-from-kenya-utility-in-26-million-deal.html.

Third, even if limited in scope, certain data on green technology IP owners' willingness to license are viewed as suggesting a generally positive outlook for green technology transfer, including to developing countries. A European Patent Office survey on green technology licensing activities strikes a positive note on the prospect of green technology transfer.[108] About half of respondents (private and public entities headquartered in developed countries plus some in countries such as China and South Africa) declared to have a 'significant or substantial' portion of clean energy patents in their patent portfolio. 73% of respondents believe it is important to seek opportunities to license out their technologies, and 82% of respondents view IP as vital to licensing transactions. 70% stated to be willing to consider more flexible or accommodating conditions, where such transactions involve developing countries.[109]

In conclusion, MEAs often contain some degree of technology transfer obligation, mostly subject to appropriate IP protection. Irrespective of the AWG-LCA proposal, WTO Members have the right to exercise the TRIPS flexibilities such as compulsory licensing, for example in national emergency conditions or for public non-commercial use. It appears as yet untested to what extent the climate change problem would meet such conditions. More relevant perhaps from a practical perspective however, the absence of enforceable proprietary rights in a country would not guarantee automatic technology transfer.[110]

108 EPO, UNEP, ICTSD and OECD, Patents and Clean Energy: Bridging the Gap Between Evidence and Policy: Final Report 50-61 (2010).
109 *Id.*
110 *E.g.*, *supra* note 6.