

A SUBMISSION TO THE PRODUCTIVITY COMMISSION

**PATENT LAW AND COMPULSORY LICENSING:
AGRICULTURE, THE ENVIRONMENT,
AND CLIMATE CHANGE**

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BIOGRAPHY

I am an Australian Research Council Future Fellow, working on Intellectual Property and Climate Change. I am an associate professor at the ANU College of Law, and an associate director of the Australian Centre for Intellectual Property in Agriculture (ACIPA). I hold a BA (Hons) and a University Medal in literature, and a LLB (Hons) from the Australian National University. I received a PhD in law from the University of New South Wales for my dissertation on *The Pirate Bazaar: The Social Life of Copyright Law*. I am a member of the ANU Climate Change Institute. I have published widely on copyright law and information technology, patent law and biotechnology, access to medicines, clean technologies, and traditional knowledge. My work is archived at *SSRN Abstracts* and *Bepress Selected Works*.

I am the author of *Digital Copyright and the Consumer Revolution: Hands off my iPod* (Edward Elgar, 2007). With a focus on recent US copyright law, the book charts the consumer rebellion against the *Sonny Bono Copyright Term Extension Act 1998* (US) and the *Digital Millennium Copyright Act 1998* (US). I explore the significance of key judicial rulings and consider legal controversies over new technologies, such as the iPod, TiVo, Sony Playstation II, Google Book Search, and peer-to-peer networks. The book also highlights cultural developments, such as the emergence of digital sampling and mash-ups, the construction of the BBC Creative Archive, and the evolution of the Creative Commons. I have also also participated in a number of policy debates over Film Directors' copyright, the *Australia-United States Free Trade Agreement 2004*, the *Copyright Amendment Act 2006* (Cth), the *Anti-Counterfeiting Trade Agreement 2010*, and the *Trans-Pacific Partnership*.

I am also the author of *Intellectual Property and Biotechnology: Biological Inventions* (Edward Elgar, 2008). This book documents and evaluates the dramatic expansion of intellectual property law to accommodate various forms of biotechnology from micro-organisms, plants, and animals to human genes and stem cells. It makes a unique theoretical contribution to the controversial public debate over the commercialisation of biological inventions. I edited the thematic issue of *Law in Context*, entitled *Patent Law and Biological Inventions* (Federation Press, 2006). I was also a chief investigator in an Australian Research Council Discovery Project, 'Gene Patents In

Australia: Options For Reform' (2003-2005), and an Australian Research Council Linkage Grant, 'The Protection of Botanical Inventions (2003). I am currently a chief investigator in an Australian Research Council Discovery Project, 'Promoting Plant Innovation in Australia' (2009-2011). I have participated in inquiries into plant breeders' rights, gene patents, and access to genetic resources.

I am a co-editor of a collection on access to medicines entitled *Incentives for Global Public Health: Patent Law and Access to Essential Medicines* (Cambridge University Press, 2010) with Professor Kim Rubenstein and Professor Thomas Pogge. The work considers the intersection between international law, public law, and intellectual property law, and highlights a number of new policy alternatives – such as medical innovation prizes, the Health Impact Fund, patent pools, open source drug discovery, and the philanthropic work of the (RED) Campaign, the Gates Foundation, and the Clinton Foundation. I am also a co-editor of *Intellectual Property and Emerging Technologies: The New Biology* (Edward Elgar, 2012), with Alison McLennan.

I am the author of a monograph, *Intellectual Property and Climate Change: Inventing Clean Technologies* (Edward Elgar, September 2011). This book charts the patent landscapes and legal conflicts emerging in a range of fields of innovation – including renewable forms of energy, such as solar power, wind power, and geothermal energy; as well as biofuels, green chemistry, green vehicles, energy efficiency, and smart grids. As well as reviewing key international treaties, this book provides a detailed analysis of current trends in patent policy and administration in key nation states, and offers clear recommendations for law reform. It considers such options as technology transfer, compulsory licensing, public sector licensing, and patent pools; and analyses the development of Climate Innovation Centres, the Eco-Patent Commons, and environmental prizes, such as the L-Prize, the H-Prize, and the X-Prizes. I am currently working on a manuscript, looking at green branding, trade mark law, and environmental activism.

I also have a research interest in intellectual property and traditional knowledge. I have written about the misappropriation of Indigenous art, the right of resale, Indigenous performers' rights, authenticity marks, biopiracy, and population genetics.

EXECUTIVE SUMMARY

This submission is based on my work in respect of an Australian Research Council Future Fellowship research project on Intellectual Property and Climate Change.

This submission draws upon a number of pieces of research including:

Matthew Rimmer, *Intellectual Property and Climate Change: Inventing Clean Technologies*, Cheltenham (UK) and Northampton (Mass.): Edward Elgar, September 2011, http://www.e-elgar.co.uk/bookentry_main.lasso?id=13601

Matthew Rimmer, *Intellectual Property and Biotechnology: Biological Inventions*, Cheltenham (UK) and Northampton (Mass.): Edward Elgar, January 2008, http://www.e-elgar.co.uk/Bookentry_Main.lasso?id=4264

Matthew Rimmer and Alison McLennan (ed.), *Intellectual Property and Emerging Technologies: The New Biology*, Cheltenham (UK) and Northampton (Mass.): Edward Elgar, January 2012, http://www.e-elgar.co.uk/bookentry_main.lasso?id=14000.

Matthew Rimmer, 'The Doomsday Vault: Seed Banks, Food Security, and Climate Change' in Matthew Rimmer and Alison McLennan (ed.), *Intellectual Property and Emerging Technologies: The New Biology*, Cheltenham (UK) and Northampton (Mass.): Edward Elgar, 2012, 361-391, http://www.e-elgar.co.uk/bookentry_main.lasso?id=14000.

Matthew Rimmer, 'Climate Ready Crops: Intellectual Property, Agriculture, and Climate Change', in Matthew Rimmer and Alison McLennan (ed.), *Intellectual Property and Emerging Technologies: The New Biology*, Cheltenham (UK) and Northampton (Mass.): Edward Elgar, 2012, 320-360, http://www.e-elgar.co.uk/bookentry_main.lasso?id=14000.

Matthew Rimmer, 'A Proposal for a Clean Technology Directive: European Patent Law and Climate Change' (2011) 3 *A Journal of Renewable Energy Law and Policy*, 195-204.

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

Matthew Rimmer, 'Climate Justice for Intellectual Property at Durban', *The Conversation*, 8 December 2011, <http://theconversation.edu.au/climate-justice-for-intellectual-property-at-durban-4572>

CONTEXTS

1. Agriculture

There is scope for compulsory licensing under both patent law and plant breeders' rights – subject, of course, to international rules under Article 31 of the *TRIPS Agreement* 1994.

In the matter of *Sacker Potatoes Ltd v C Meijer BV*, there was a consideration of whether compulsory exploitation rights should be granted in protected variety of potato on grounds that refusal to issue licence was unreasonable and right holder was failing to satisfy demand in the United Kingdom market.¹ In 2001, the United Kingdom Controller of Plant Variety Rights refused the first compulsory licence application lodged under the *Plant Varieties Act* 1997 (UK). The challenge was to a variety of potato 'Lady Rosetta', used in the manufacture of crisp chips. Dutch seed breeder, C. Meijer BV, was the owner of the United Kingdom plant breeders' rights in 'Lady Rosetta', and MBM Produce Ltd was its exclusive agent in the United Kingdom. Sacker Potatoes Ltd applied for a compulsory exploitation rights in the protected variety, arguing that Meijer's refusal to issue a licence was unreasonable and that the rights' holder was failing to satisfy demand in the United Kingdom market. The applicant's action was supported by Higgins Agriculture Ltd. The court rejected the application for a compulsory license in the circumstances.

The special rapporteur on the right to food, Olivier de Schutter, has suggested that compulsory licensing could be an appropriate option in certain circumstances to address concerns about food security and climate change:

Where patents restrict research in ways which may have an impact on food security and are an obstacle to face situations of 'national emergency' or other 'extreme urgency', for instance in the face of declining crop productivity, article 31 of the TRIPS Agreement allows compulsory licensing. Inspiration may be sought in this regard from the Patents and Plant Variety Rights (Compulsory Licensing) Regulations adopted in the United Kingdom of Great Britain and Northern Ireland in 2002, which allow applying for a licence to acquire or develop a new plant

¹ *Sacker Potatoes Ltd v C Meijer BV* (Unreported, October 31, 2001).

variety, which ‘constitutes significant technical progress of considerable economic interest in relation to the invention protected by the patent’. In addition, in line with the general purposes of the TRIPS Agreement, intellectual property rights may be restricted in the public interest, for instance through the doctrine of eminent domain. And developed countries may make available to developing countries any biotechnologies developed through public research without the need for a licence or other permission. In the short term, these tools may be appropriate, for instance, to limit the negative impacts of the recent trend towards patent claims made following the adaptation of specific gene traits that could confer one or more forms of stress tolerance linked to climate change (including salinity, drought or flood, heat or cold). In the long term, a procedure may have to be set up to allow the granting of non-exclusive licences to any requesting party for the use of any patented tool of biotechnology in order to ensure food security in developing countries.²

Margaret Llewelyn and Mike Adcock caution that ‘Whilst there is the notion of a compulsory licence present, its use is so rare, and politically sensitive, that its role as an actual instrument to ensure protection of the public interest looks marginal’.³ The pair suggest that there needs to be greater thinking as to whether compulsory licensing should ‘encompass the gamut of diverse uses – addressing such matters as the public interest in respect of access to agricultural plant research as well as that of more overtly public interest orientated research such as that directed towards healthcare’.⁴

Moreover, the Special Rapporteur has maintained that there is a need to ‘consider using antitrust legislation in order to combat excessive concentration in the input providers’ market, which entails the risk of abuse of dominant position by the seed companies concerned and the setting of prices at levels which may be unjustifiably high and unaffordable for poor farmers.’⁵

² De Schutter, Olivier (2009), *Seed Policies and the Right to Food: Enhancing Agro biodiversity and Encouraging Innovation*, United Nations General Assembly, A/64/170, 12, <http://www.ip-watch.org/weblog/wp-content/uploads/2009/11/n0942473.pdf>

³ Llewelyn, M. and M. Adcock (2006), *European Plant Intellectual Property*, Oxford and Portland: Hart Publishing, 524.

⁴ Ibid. 524.

⁵ De Schutter, Olivier (2009), *Seed Policies and the Right to Food: Enhancing Agro biodiversity and Encouraging Innovation*, United Nations General Assembly, A/64/170, <http://www.ip-watch.org/weblog/wp-content/uploads/2009/11/n0942473.pdf>

In respect of genetically modified crops, there have been a number of unsuccessful class actions by organic farmers against agricultural biotechnology companies. In the United States, in the case of *Sample v. Monsanto*, Frederick Sample sought to lead a class action, in which ‘corn and soybean farmers claim that defendants Monsanto, Pioneer and Syngenta conspired to fix, raise, maintain, or stabilize prices on genetically modified (GM) Roundup Ready soybean seeds and Yieldgard corn seeds in violation of the Sherman Act, 15 U.S.C. § 1’.⁶ This action was unsuccessful, both in its action in respect of tort law and competition law. Similarly, in Canada, in the case of *Hoffman v. Monsanto*, the Court of Appeal for Saskatchewan rejected an attempt by Larry Hoffman to organise a class action on behalf of organic grain farmers for the recovery of damages alleged to have been suffered as a result of the introduction of genetically modified crops by the agricultural biotechnology companies, Monsanto Canada and Bayer Cropscience.⁷

Given such precedents, it may well be difficult to rely upon competition law to regulate the use of intellectual property rights by agricultural biotechnology companies.

2. Biotechnology

It has been difficult to invoke compulsory licensing and crown use provisions in battles over patents and genetic testing, thus far. A number of commentators favour law reform to allow for the flexible use of compulsory licensing in respect of gene patents. Co-discoverer of the double helix structure of DNA and Nobel Laureate, James D. Watson, has contended that compulsory licensing for gene patents is a good fallback option:

Compulsory licensing ensures that scientists and researchers will have reasonable access to human genes and genetic information. Compulsory licensing will attenuate the negative consequences of the genetic monopolies created by patents. Implementing a compulsory

⁶ *Sample v. Monsanto* (United States District Court for the Eastern District of Missouri, 2003), https://ecf.moed.uscourts.gov/documents/opinions/BLADES_V_MONSANTO_CO-RWS-397.PDF

⁷ *Hoffman v. Monsanto Canada Inc.*, 2007 SKCA 47 (CanLII)

license protocol will also reduce the risk that a patient is denied access to life-saving medicines and technologies using human genes and the information encoded in the genes.⁸

Bruce Arnold also maintains that compulsory licensing would be a useful mechanism to facilitate access to gene patents: ‘In an era where the patent-protected life sciences are increasingly important, that would be a positive outcome.’⁹

In its inquiry into gene patenting, the Australian Law Reform Commission proposed a number of amendments to the existing compulsory licensing regime in chapter 12 of the *Patents Act* 1990 (Cth), ‘Given the unique nature of many biotechnology inventions, and hence their possible lack of substitutability, the anti-competitive exploitation of a patent could have significant implications for downstream research or access to certain healthcare services.’¹⁰ The ALRC recommended that the federal government should amend the *Patents Act* 1990 (Cth) to insert a competition-based test as an additional ground for the grant of a compulsory licence. It believed that such a test would address those circumstances in which there is a public interest in enhanced competition in a market, and the patent holder has not met reasonable requirements for access to the patented invention. The provision of compulsory licensing would be useful in the future, if a company abuses its dominant market position. Such measures would also be relevant in circumstances where the patent holder blocked access to inventions for research, treatments and diagnosis.¹¹

There is also scope for the introduction of compulsory licensing in relation to patents

⁸ Watson, James D. (2012) ‘Brief for Amicus Curiae James D. Watson in Support of Neither Party in *Association for Molecular Pathology v. United States Patent and Trademark Office and Myriad Genetics Inc.*’ 12 June, http://keionline.org/sites/default/files/Amicus_james_d_watson_AMPvUSPTO_remand.pdf [accessed 1 September 2012].

⁹ Arnold, Bruce (2012) ‘Is it Time to Unlock Biotech Patents?’, *The Conversation*, 10 July, <http://theconversation.edu.au/is-it-time-to-unlock-biotech-patents-8034> [accessed 1 September 2012].

¹⁰ Australian Law Reform Commission (2004), *Genes and Ingenuity: Gene Patenting and Human Health, Report 99*. Sydney: Australian Commonwealth, <http://www.austlii.edu.au/au/other/alrc/publications/reports/99/>, June, 620.

¹¹ Ibid.

for genetic testing in the United Kingdom,¹² the United States,¹³ Canada,¹⁴ and Australia.¹⁵ Such regulation would help limit excessive profits - the cost of developing a test kit for mutations in a gene is not great and this should be reflected in the price of the product.¹⁶ There is widespread concern that patents will reduce access to genetic testing because of higher cost - government will be less able to fund testing and, if this occurs, access to clinically indicated genetic tests will be determined, for many people, by capacity to pay.¹⁷ It provides no incentive for the technological improvement and price reduction that comes with competition.

Implementing the *European Union Directive on the Legal Protection of Biotechnological Inventions* 1998, the Belgium Government introduced an enlarged defence of experimental use and compulsory licenses in respect of public health, as

¹² Nuffield Council on Bioethics (2002), *The Ethics of Patenting DNA, A Discussion Paper*. London: Nuffield Council on Bioethics, http://www.nuffieldbioethics.org/go/ourwork/patentingdna/publication_310.html.

¹³ Federal Trade Commission (2003), *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy*. Washington, DC: Federal Trade Commission, <http://www.ftc.gov/os/2003/10/innovationrpt.pdf> National Academy of Sciences (2004), *A Patent System for the 21st Century*. Washington DC: National Academy of Sciences, http://books.nap.edu/catalog.php?record_id=10976; and National Research Council Committee on Intellectual Property Rights in Genomic and Protein Research and Innovation (2005), *Reaping the Benefits of Genomic and Proteomic Research: Intellectual Property Rights, Innovation and Public Health*. Washington DC: National Academies Press, Washington, DC.

¹⁴ Canadian Biotechnology Advisory Committee (2006), *Human Genetic Materials, Intellectual Property, and the Health Sector*, Ottawa: Canadian Biotechnology Advisory Committee, <http://cbac-cccb.ca/epic/internet/incbac-cccb.nsf/en/ah00578e.html>

¹⁵ Australian Law Reform Commission (2004), *Gene Patenting and Human Health, Discussion Paper* 68. Sydney: Australian Commonwealth, <http://www.austlii.edu.au/au/other/alrc/publications/dp/68/>, February; and see also Lawson, C. (2002), 'Patenting Genes And Gene Sequences And Competition: Patenting At The Expense Of Competition', *Federal Law Review*, **30**, 97-133

¹⁶ Gitter, D. (2001), 'International Conflicts Over Patenting Human DNA Sequences In The United States And The European Union: An Argument For Compulsory Licensing And A Fair Use Exemption', *New York University Law Review*, **76**, 1623-1691.

¹⁷ Human Genetics Society of Australasia (2001), 'HGSA Position Paper On The Patenting Of Genes', 3.6.

part of its amendments to the Belgian patent laws in 2005.¹⁸ Geertrui van Overwalle comments on this initiative: ‘The Minister specified that the newly designed compulsory licence particularly aims at securing a delicate balance between different stakeholders and to prevent ending up in American situations, like the Myriad case.’¹⁹ She notes: ‘The new compulsory licence for domestic public health will hopefully address undesirable effects and unreasonable behaviour from patent holders in an adequate manner, thanks to its preventive and dissuading effect towards patent holders applying (extremely) restricting licensing policies.’²⁰

There has been opposition to compulsory licensing, particularly within the biotechnology and pharmaceutical industries. Some are uncertain whether the monopoly of Myriad Genetics will prevail. An economist from Boston University, Iain Cockburn, questioned whether there was a need for government regulation: ‘If Myriad were making lots of money that's one thing, but they aren't’.²¹ A member of the Chicago school of law and economics, Richard Epstein, maintained that the marketplace should be left to solve problems with respect to patents in the field of biotechnology: ‘Compulsory licenses cannot replicate the complex provisions that regulate the scope of the permitted use, the creation of sub-licensees, the sharing of information between the two parties, the extension of the license term and the host of other provisions included for mutual advantage in voluntary licenses’.²²

In the United Kingdom, the Nuffield Council on Bioethics convened a group of

¹⁸ Van Overwalle, G. (2006) ‘The Implementation of the Biotechnology Directive in Belgium and its After-Effects: The Introduction of a New Research Exemption and a Compulsory Licence for Public Health’, *International Review of Intellectual Property and Competition Law*, **37** (8), 889-920.

¹⁹ Ibid., 908.

²⁰ Ibid., 919.

²¹ Westphal, S.P. (2002), ‘Your Money Or Your Life’, *New Scientist*, **175**, 29 at 33.

²² Epstein, R. (2002), ‘If It Ain't Broke’ *FT.Com*, 2 July <http://www.law.uchicago.edu/news/epstein-genome.html>; see also: Epstein, Richard (2003), ‘Steady the Course: Property Rights in Genetic Material’, in Kieff, F. Scott (ed). *Perspectives on Properties of the Human Genome Project*. Amsterdam: Academic Press, Elsevier, p. 159.

experts to discuss the ethics of gene patenting.²³ After its deliberations, the Nuffield Council on Bioethics concluded that the criteria for the granting of patents, particularly the criterion of inventiveness, should be strongly applied to patent applications in respect of genetic testing. Furthermore, it suggested that compulsory licensing may be required to ensure reasonable licensing terms are available to enable alternative tests to be developed.

In the Report on Intellectual Property Rights and Genetics, William Cornish, Margaret Llewelyn and Mike Adcock submit that the United Kingdom Department of Health needs to play a more active role in relation to gene patents: ‘The Department needs to develop a coherent policy for both the receipt and the provision of patented material’.²⁴ The report recommended that the Department of Health should instigate a robust central policy for ‘licensing in’ designed to moderate excessive demands by licensors by considering, as possible options, the use of compulsory licensing, competition law and Crown use.

In the context of access to essential medicines, the European Union had developed a regulation to deal with the export of patented pharmaceutical drugs to developing countries.²⁵ Perhaps a similar Community-wide approach to compulsory licensing in respect of public health concerns in respect of genetic diagnostic testing would be desirable.

²³ Nuffield Council on Bioethics (2002), *The Ethics of Patenting DNA, A Discussion Paper*. London: Nuffield Council on Bioethics, http://www.nuffieldbioethics.org/go/ourwork/patentingdna/publication_310.html.

²⁴ Cornish, William, Llewelyn, Margaret and Mike Adcock (2003), *Intellectual Property Rights And Genetics: A Study into the Impact and Management of Intellectual Property Rights within the Healthcare Sector*. Cambridge: Public Health Unit.

²⁵ European Union, Regulation (EC) No 816/2006 of the European Parliament and the Council of 17 May 2006 on compulsory licensing of patents relating to the manufacture of pharmaceutical products for export to countries with public health problems.

3. Nanotechnology

Compulsory licensing could be deployed to provide access to nanotechnology inventions in return for reasonable compensation to the patent owner. The *TRIPS Agreement* 1994 recognises that members of the World Trade Organization can authorise the use of patented inventions, subject to a number of procedural conditions. Terry Tullis has made the case for a limited patent compulsory regime in respect of nanotechnology.²⁶ He comments:

In the area of patents, Article 31 of the *TRIPS Agreement* 1994 already permits World Trade Organization members to grant compulsory patent licenses under the limited circumstances of national emergency, antitrust violations, and public noncommercial use. Future intellectual property harmonization or nanotechnology treaties could also expand existing government license rights. Other countries have little cause to object to this proposed augmentation of the government license defense because there is no impact on foreign intellectual property.²⁷

Tullis concludes: ‘A well-formulated government license defense would provide a means for overcoming the innovation-impeding effects of absolute exclusion rights by assessing infringement along a spectrum of use’.²⁸

4. Durban: Intellectual Property and Climate Change

In a global day of action for climate justice, thousands of protestors complained about the slow progress in international debates on climate change at the United Nations conference in Durban. One of the chants of the campaigners was ‘Climate justice ... not climate apartheid’. Banners dubbed the Durban event a ‘circus’ – a ‘conference of polluters’.

²⁶ Tullis, T. (2005-2006), ‘Application of the Government License Defense to Federally Funded Nanotechnology Research: The Case for a Limited Patent Compulsory Licensing Regime’, *University of California, Los Angeles Law Review*, **53**, 279-314.

²⁷ *Ibid.*, 311.

²⁸ *Ibid.*, 308.

They could have been talking about the meeting's record on intellectual property and clean technologies. It has been marked by divisions, deadlocks, and delays in Durban. The topic is a critical one for climate change, biodiversity protection, and the energy crisis.

The *United Nations Framework Convention on Climate Change 1992* encouraged governments to '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'.

Such clean technologies include forms of renewable energy such as solar power, wind turbines, geothermal energy, and marine power; innovations in energy efficiency; as well as climate-ready crops, biofuels, and carbon-friendly farming; and hybrid cars such as the Toyota Prius, green buildings, and smart grids.

But developed countries have been fiercely jealous about guarding intellectual property rights in clean technologies. There have been complaints at Durban that the belligerent exercise of patent rights has created barriers to access clean technologies, especially among developing countries and least developed countries.

The *Copenhagen Accord 2009* and the *Cancún Agreements 2010* established a Technology Mechanism, consisting of a Technology Executive Committee and a network of Climate Innovation Centres. The creation of a web of Climate Innovation Centres is designed to facilitate collaboration between the private sector and the public sector on the development, transfer, and deployment of clean technologies.

However, the *Copenhagen Accord 2009* and the *Cancún Agreements 2010* failed to reach a consensus on dealing with intellectual property and climate change.

The discussions in *Durban* in 2011 featured a similar level of acrimony and procrastination on the issue of intellectual property and climate change.

The debate in Durban

Ironically, given the discord between the nation states, the slogan for the Durban talks is ‘Working Together: Saving Tomorrow Today’.

The United States Government has argued there should be strong intellectual property rights protection of clean technologies. The United States Special Envoy for Climate Change Todd Stern has argued: ‘The way you drive technological development is through intellectual property rights. So it would be really a huge mistake to weaken those.’

The United States has been particularly tense about competition with China over clean technologies. Westinghouse Solar Inc. recently filed for patent infringement against Chinese solar-panel maker Canadian Solar Inc. The United States Department of Energy sought to block the sale of solar patents from the bankrupt Evergreen Solar to Chinese purchasers.

The International Centre for Trade and Sustainable Development has released a policy paper, encouraging the nation states to overcome their impasse. The paper suggests: ‘Policymakers should start with non-controversial technical solutions, later moving on to options that involve the use of intellectual property rights and licensing as well as pooled procurement strategies.’ The Centre, for instance, suggests the fast-track examination of patent applications for green technologies is non-controversial.

India has called for ‘accelerated access to critical mitigation and adaptation technologies and related intellectual property rights’.

‘Given the serious energy poverty and developmental challenges many developing countries face and are compelled to prioritize,’ India says, ‘access to critical mitigation and adaptation technologies is central to their ability to address climate change.’ India wants a regime that ‘balances rewards for the innovators with the common good of humankind and thereby enables developing countries to take early and effective mitigation and adaptation actions at the national level.’

India has been supported in its position by other members of the BASIC group, which also includes Brazil, China, and South Africa. In their view, ‘discussions on these

important issues [of equity, trade and intellectual property rights]... would contribute to a comprehensive and balanced outcome at Durban’.

The African Group has argued that developing countries should make full use of the flexibilities of the international regime of intellectual property ‘to address adaptation or mitigation of climate change, in order to enable them to create a sound and viable technological base’.

One of the Progressive Latin American states, Venezuela, asked that ‘the Parties shall ensure that intellectual property rights and agreements shall not be interpreted or implemented in a manner that limits or prevents any Party from taking any measures to promote mitigation of climate change.’

Somewhat more radically, Bolivia has argued that developing countries and least developed countries should treat clean technologies as global public goods, which are not subject to intellectual property rights protection.

Least developed countries, small island states, and countries vulnerable to the impacts of climate change are also sympathetic to flexible options to address intellectual property and climate change.

A climate commons for intellectual property

In my book, *Intellectual Property and Climate Change: Inventing Clean Technologies*, I argue that a climate commons for intellectual property could foster co-operation and collaboration on clean technologies. While still respecting intellectual property rights, there should be scope for flexible uses of clean technologies.

It is critical to address international law’s fragmented approach to intellectual property and climate change. Developed nations need to be bound by an effective system of technology transfer of environmentally sound technologies. Too often, obligations regarding technology transfer have been ignored, overlooked, and scorned.

Developing countries and least-developed countries should have intellectual property regimes, which take into account their position on the Human Development Index.

There must be a differentiated approach to clean technologies under patent law. Patent offices would benefit from procedural reforms, including fast-tracks for green patent applications and better databases and search engines.

Patent law reform for clean technologies also needs to be substantively reformed. There has been much concern about research and development on clean technologies being impeded by patent log-jams and thickets. One solution for this ‘tragedy of the anticommons’ would be to establish a Global Patent Pool to enable the sharing and exchange of clean technologies. Another option would be the development of a system of flexible, open licensing – a Climate Commons – modelled on the Creative Commons blueprint. Compulsory licensing could also be used to address patent gridlocks, climate emergencies, and anti-competitive behaviour.

Finally, the intellectual property regime should be supplemented by complementary models of innovation. The National Renewable Energy Laboratory in the United States has incubated the development of a wide range of clean technologies, which have been then commercialised by private companies. This model should be emulated elsewhere.

The Technology Mechanism – with its web of Climate Innovation Centres – should be operationalised. More environmental prizes could also help, especially given the impact of the H-Prize for Hydrogen, the L-Prize for Lighting and the Saltire Prize for marine energy.

The Green Climate Fund will play an important role in funding innovation on clean technologies. Thomas Pogge’s proposal for an Ecological Impact Fund also deserves further consideration.

Without improvements to the intellectual property regime, developing countries will not be able to achieve the objective of advancing appropriate mitigation and

adaptation actions at the scale and speed warranted by the United Nations Framework Convention on Climate Change 1992.

5. Rio+20: who owns the Green Economy?

The Rio+20 summit has raised a number of difficult questions about law and technology: what is the relationship between intellectual property and the environment? What role does intellectual property play in sustainable development? Who will own and control the Green Economy? What is the best way to encourage the transfer of environmentally sound technologies? Should intellectual property provide incentives for fossil fuels? What are the respective roles of the public sector and the private sector in green innovation? How should biodiversity, traditional knowledge and Indigenous intellectual property be protected?

The Earth Summit held in Rio de Janeiro in 1992 resulted in a number of landmark agreements. The 1992 texts include the *Rio Declaration on Environment and Development*, *Agenda 21*, the *United Nations Framework Convention on Climate Change*, the *Convention on Biological Diversity*, and the *Forest Principles*. These agreements considered the relationship between intellectual property, sustainable development, and the environment.

The Rio+20 conference has focused on two central themes: ‘a green economy in the context of sustainable development and poverty eradication’ and the ‘institutional framework for sustainable development’. Chinese diplomat Sha Zukang, secretary-general for Rio+20, observed: ‘A critical issue is Intellectual Property Rights, for which I have always stressed the key is affordability. If technologies are not affordable, then all this pledge to international cooperation is just empty talk.’

There was much debate over intellectual property, development, and the Green Economy at the summit.

Intellectual property, technology transfer, and the Green Economy

1992's *Agenda 21* said '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 environmentally sound technology, in particular to developing countries'. Agenda 21 promoted technology transfer, and envisaged 'a collaborative network of ... international research centres on environmentally sound technology.'

Twenty years later, at Rio+20, there has been further debate over intellectual property, technology transfer and the environment.

Agenda 21 promoted the need for transfer of technology to increase sustainability, but Rio+20 has backed off.

One observer, IP Watch , noted: '... the developed and the developing world are divided on the mechanisms needed to make [innovation and green technology] happen on the ground ... Intellectual property rights are a vital piece of this fractious debate.'

The World Intellectual Property Organization's Rio+20 submission said: 'The Intellectual Property system, and in particular patents, are fundamental in that they provide a stimulus for investment in innovation and contribute to a rapid – and global – diffusion of new technologies.'

China and the G77 called for 'an International Mechanism' to facilitate 'transfer of technology in sustainable development.' The International Centre for Trade and Sustainable Development (ICTSD) proposed a Global Green Innovation and Technology Partnership.

The early June draft of the Rio+20 text noted 'that 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 environmentally sound technology, in particular to developing countries'.

The United States, the European Union, Japan, Canada, Australia and Switzerland wanted to delete this paragraph. Such nations favoured strong protection of intellectual property rights in order to encourage private investment in the research and development of environmental technologies. Martin Khor of the Third World Network noted that developed countries were hostile to obligations on technology transfer: ‘Wherever the words ‘technology transfer’ appear, there is an attempt to change it to voluntary transfer on mutually agreed terms and conditions’. The United States, Canada, and Japan also opposed the establishment of a Technology Mechanism at Rio+20.

Intellectual property is a cipher in Rio+20 – a topic of ‘importance’, but not worthy of further textual elaboration. The final Rio+20 text – entitled the *Future We Want* – merely affirms ‘the importance of technology transfer to developing countries’ and recalls ‘the provisions on technology transfer, finance, access to information, and intellectual property rights as agreed in the Johannesburg Plan of Implementation’. The minimalist text on intellectual property in Rio+20 is terse compared to Agenda 21’s much more extensive provisions.

Rio+20 creates no new Technology Mechanism, like the UNFCCC Climate Technology Centre. It merely asks for countries to ‘strengthen international cooperation’. It invites governments ‘to create enabling frameworks that foster environmentally sound technology.’ It also recognises that ‘the private sector can contribute to the achievement of sustainable development, including through the important tool of public-private partnerships’.

There was a significant push to end subsidies for fossil fuels at Rio+20. However, intellectual property law continues to play a double role – providing incentives alike for clean, renewable energy; as well as dirty, polluting technologies in coal, oil, and gas.

Intellectual property, public health and access to medicines

The *Future We Want* text does recognise ‘the importance of universal health coverage to enhancing health, social cohesion and sustainable human and economic

development.’ It emphasises that ‘HIV and AIDS, malaria, tuberculosis, influenza, polio and other communicable diseases remain serious global concerns’. It also acknowledges ‘the global burden and threat of non-communicable diseases’.

There was much debate as to whether the text should refer to the debate over intellectual property, public health, and access to essential medicines. Even though Hillary Clinton emphasised the need to ‘chart a path towards an AIDS-free generation’, the United States delegation wanted to delete references to access to essential medicines.

However, at Brazil’s insistence, Paragraph 142 of the text of *Future We Want* maintains: ‘We reaffirm the right to use, to the full ... flexibilities [under international intellectual property] for the protection of public health, and, in particular, to promote access to medicines for all, and encourage the provision of assistance to developing countries in this regard.’

This is an important symbolic recognition of the connections between public health, sustainable development, and the environment.

More could have been done at Rio+20. One suggestion was Rio+20 should have established ‘patent pools’ (along the lines of the Medicines Patents Pool) to ‘finance the transfer of clean technologies and their development in developing countries.’

A Global Indigenous Network: intellectual property, traditional knowledge and biodiversity

The *Future We Want* text says: ‘We stress the importance of the participation of indigenous peoples in the achievement of sustainable development.’ Moreover, it recognises ‘that traditional knowledge, innovations and practices of indigenous peoples and local communities make an important contribution to the conservation and sustainable use of biodiversity.’ However, there is a lack of firm commitment to protect traditional knowledge and Indigenous intellectual property.

The Australian Government made a notable contribution to the debate, establishing a Global Indigenous Network. Built on the model of Caring for Our Country, the Indigenous Peoples and Local Communities Land and Sea Managers Network will also involve New Zealand, Norway, and Brazil. The Prime Minister Julia Gillard observed that this forum ‘will help us listen and learn’.

This is an innovative policy contribution. It may help practically manage and protect traditional knowledge in a range of jurisdictions. The proposal could be strengthened further with legislative reforms to protect Indigenous Intellectual Property in participating countries. It could also be extended to other nations – particularly members of the Alliance of Small Island States.

The *Convention on Biological Diversity 1992* also promotes informed consent and benefit-sharing in respect of genetic resources held by Indigenous Communities.

Our common vision?

The Rio+20 text *The Future We Want* speaks of ‘our common vision’ for sustainable development and the Green Economy. However, the topic of intellectual property and the environment at Rio+20 was the subject of division, confrontation, and ultimately a lack of consensus.

The minimalist, weak text on intellectual property, technology transfer, and the Green Economy retreats from the Earth Summit’s texts two decades ago. Instead, there is hortatory language about encouragement, acknowledgement, and reaffirmation. There has been concern that such important issues have been glossed over at the summit. Perversely, the Future We Text subtracts from international law on intellectual property, the environment, and sustainable development. Little wonder some critics have dubbed the summit Rio-20.

Reflecting on the lack of real progress at Rio+20, Norwegian international leader and advocate of sustainable development Gro Harlem Brundtland observed that there were ‘complex reasons’ why governments had failed to take the ‘common vision’ further – including the power of corporations: ‘In our political system, corporations, businesses

and people who have economic power influence political decision-makers – that’s a fact, and so it’s part of the analysis.’

Future international summits on the environment, biodiversity, and climate change have been left to reconcile such tensions over intellectual property and the global commons.

RECOMMENDATIONS

Recommendation 1

Australia's compulsory licensing provisions are defective in terms of their objectives – especially given their focus upon the protection of domestic markets from foreign competition.

Recommendation 2

Australia's compulsory licensing provisions are ineffective in practice and have been seldom invoked because they lack clarity in terms of the text, and involve complex, bureaucratic procedures.

Recommendation 3

Australia's compulsory licensing provisions were revised to add a competition test. Nonetheless, the regime needs further modernisation, particularly with respect to the public policy objectives of the patent regime.

Recommendation 4

Australia's compulsory licensing provisions should be modernised in light of the *TRIPS Agreement* 1994, particularly with a recognition of the objectives and principles of the regime, as expressed under Articles 7 and 8.

Recommendation 5

Australia's compulsory licensing provisions should seek to promote the World Intellectual Property Organization's Development Agenda.

Recommendation 6

Australia's compulsory licensing provisions should support international environmental and climate law, and facilitate technology transfer, and access to clean technologies.

Recommendation 7

Australia should develop a modern, flexible compulsory licensing regime which is able to address a number of scenarios, including national emergencies, circumstances of extreme urgency, and public non-commercial use.

Recommendation 8

Australia should ensure that the compulsory licensing regime can address a range of public policy issues, including:

- * the protection of the environment (for instance, dealing with air, water, and soil pollution);**
- * the protection of biodiversity (both terrestrial and marine biodiversity);**
- * food security, agriculture, and nutrition;**
- * access to water;**
- * climate change and global warming;**
- * natural disasters and extreme weather events (including floods, droughts, heat-waves, bush-fires, hurricanes);**
- * public health issues (including those that are climate related).**

Recommendation 9

Australia should allow for compulsory licensing to address anti-competitive conduct. There is a role for competition regulators to supervise and monitor the impact of patents in respect of environmentally

sound technologies – particularly given the history of competition abuses in the energy marketplace.

Recommendation 10

Australia should allow for compulsory licensing to address patent gridlocks and the tragedy of the anti-commons – particularly in respect of major infrastructure, such as Smart Grids and the National Broadband Network.

Recommendation 11

Australia should allow for compulsory licensing to facilitate technology transfer and the export of humanitarian inventions to developing countries and least developed countries.

Recommendation 12

Australia should encourage universities and other publicly funded research institutions to engage in socially responsible public sector licensing – especially in respect of clean technologies.

Recommendation 13

In respect of clean technologies, Australia should explore the use of patent pools, technology clearing houses, and open source strategies.

Recommendation 14

Australia should supplement the patent system with prizes. In the field of clean technologies, this could involve energy efficiency prizes, environmental prizes, climate prizes, and an Ecological Impact Fund.