A Submission on Intellectual Property and the United Nations Sustainable Development Goals

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SENATE STANDING COMMITTEE ON
FOREIGN AFFAIRS, DEFENCE AND TRADE

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

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Executive Summary

The Senate Standing Committee on Foreign Affairs Defence and Trade has been asked to investigate the United Nations Sustainable Development Goals (SDG), with particular reference to:

* the understanding and awareness of the SDG across the Australian Government and in the wider Australian community;
* the potential costs, benefits and opportunities for Australia in the domestic implementation of the SDG;
* what governance structures and accountability measures are required at the national, state and local levels of government to ensure an integrated approach to implementing the SDG that is both meaningful and achieves real outcomes;
* how can performance against the SDG be monitored and communicated in a way that engages government, businesses and the public, and allows effective review of Australia’s performance by civil society;
* what SDG are currently being addressed by Australia’s Official Development Assistance (ODA) program;
* which of the SDG is Australia best suited to achieving through our ODA program, and should Australia’s ODA be consolidated to focus on achieving core SDG;
* how countries in the Indo-Pacific are responding to implementing the SDG, and which of the SDG have been prioritised by countries receiving Australia’s ODA, and how these priorities could be incorporated into Australia’s ODA program; and
* examples of best practice in how other countries are implementing the SDG from which Australia could learn.

In this context, this submission considers the relationship between intellectual property and the United Nations Sustainable Development Goals.

There has been a longstanding discussion on the relationship between intellectual property and development. In 2002, the Commission on Intellectual Property Rights – led by
the late John Barton from Stanford Law Reform – provided guidance on integrating intellectual property rights and development policy.¹ This report considered intellectual and development; health; agriculture and genetic resources; traditional knowledge and geographical indications; copyright, software and the internet; patent law reform; institutional capacity; and the international architecture of intellectual property. The report observed:

Very “high” standards of protection may be in the public interest in developed countries with highly sophisticated scientific and technological infrastructures (although we note, as above, that this is controversial in several respects), but this does not mean the same standards are appropriate in all developing countries. In fact we consider that developed countries should pay more attention to reconciling their own perceived commercial self-interest, with their own interest in the reduction of poverty in developing countries.

To achieve that end, so far as possible developing countries should not be deprived of the flexibility to design their IP systems that developed countries enjoyed in earlier stages of their own development, and higher IP standards should not be pressed on them without a serious and objective assessment of their development impact. We need to ensure that the global IP systems evolve so that they may contribute to the development of developing countries, by stimulating innovation and technology transfer relevant to them, while also making available the products of technology at the most competitive prices possible. We need to make sure that the IP system facilitates, rather than hinders, the application of the rapid advances in science and technology for the benefit of developing countries.²

The report helped prompt the development of the WIPO Development Agenda.

² Ibid., 8.
Secretary-General Ban Ki-Moon provided leadership in establishing the *2030 Agenda for Sustainable Development* and the *United Nations Sustainable Development Goals 2015*. He emphasized: ‘This is the people’s agenda, a plan of action for ending poverty in all its dimensions, irreversibly, everywhere, and leaving no one behind.’ Ban Ki-Moon stressed that the adoption of the 2030 Agenda was a ‘towering achievement’:

> The Millennium Development Goals made poverty history for hundreds of millions of people. Now we are poised to continue the job while reaching higher, broader and deeper. The new framework does not just add goals. It weaves the goals together, with human rights, the rule of law and women’s empowerment as crucial parts of an integrated whole. The global goals are universal. You, the world’s leaders, have committed to leave no one behind — and to reach those farthest behind, first.

Ban Ki-Moon commented: ‘Reaching our sustainable development goals means organizing ourselves better.’

His successor, Antonio Guterres, who took office in 2017, is committed to supporting the implementation of the goals. He has reflected:

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6. Ibid.

We know that globalization has brought extraordinary benefits. Yet it is also clear that it remains fundamentally unequal and ultimately unsustainable. Many people around the world are mired in extreme poverty. Unacceptable inequalities persist. We see the gap between globalisation’s potential and unequal gains reflected in peoples’ fears, anxieties and outright anger. The 2030 Agenda and the Sustainable Development Goals are a blueprint for building an inclusive, sustainable fair globalization and overcoming the resistance that still exists in so many parts of the world.8

Guterres has stressed that finance is pivotal for the successful achievement of the Sustainable Development Goals.

Francis Gurry, the Director-General of the World Intellectual Property Organization (WIPO), has spoken about the intersection between intellectual property and the sustainable development goals (SDGs).9

Francis Gurry suggested that there is a strong connection between intellectual property and SDG 9 dealing with industry, innovation, and infrastructure. Gurry also observed that innovation has an impact on a number of other SDGs – including SDG 2 Zero Hunger, SDG 3 Good Health and Well-Being, SDG 6 Clean Water and Sanitation, SDG 7 Affordable and Clean Energy, SDG 8 Decent Work and Economic Growth, SDG 11 Sustainable Cities and Communities, and SDG 11 Climate action. He also suggests that innovation as a policy can assist in realizing other SDGs – notably SDG 1 No Poverty, SDG 8 Decent work and economic growth, SDG 14 life below water, and SDG 15 Life on Land. Gurry also observed that certain


SDGs are relevant to the settings of an innovation policy framework – SDG 5 – Gender Quality; SDG 8 – Decent work and Economic Growth, SDG – 10 Reduced Inequalities, and SDG 12 – Responsible Consumption and Production. Moreover SDG 17 is a modality in terms of partnerships for the goals.

Gurry also commented that there is an important linkage between intellectual property and SDG 4 dealing with quality education. This has a number of dimensions. Gurry commented that copyright law played a role as the principal mechanism for financing cultural production – in terms of the legal framework in treaties, and normative discussions. There was also an important role in terms of partnerships – such as the Accessible Books Consortium, and Enhancing publishing capacity. Gurry also stressed the importance of capacity building – legal and technical advice; collective and individual rights management; and human resource capacity building.

Gurry also notes that intellectual property is connected to SDG 3 – Good Health and Well-Being. There are relationships with health and innovation; upstream R&D activities; and the operational use of activities. Notably, access to medicines and tobacco control are significant issues, which raise larger matters about intellectual property, good health, and well-being.

There has been debate at WIPO as to whether the 17 Sustainable Development Goals should be considered as a whole, or if WIPO should just focus on its particular expertise and mission.10

Some academics – such as Associate Professor Sara Bannerman from McMaster University – have called for a more substantive sustainable development agenda for intellectual

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property – covering all the various Global Goals, and not just concentrating on questions of innovation.\textsuperscript{11}

The following discussion and recommendations consider the various contextual relationships between intellectual property and sustainable development.

**SDG 1. Intellectual Property and Poverty**

In their overarching study of innovation, intellectual property, and development, Dean Baker, Arjun Jayadev and Joseph Stiglitz have commented on the need to realign intellectual property laws, policies, and practices with the UN Sustainable Development Goals:

A substantial recalibration of the international approach to Intellectual Property Rights is required to ensure the advancement of the standards of living and well-being of the entire world—and to ensure consistency with development objectives and obligations and to support those innovations that have the highest value in terms of their contribution to addressing the challenges facing our global society. As the world continues to move towards greater integration and becomes more interdependent and faces up to the pressing challenge posed by our co-dependencies on each other, including global public health and climate change, these reforms will become more urgent.\textsuperscript{12}


In their view, there is a need for a better set of approaches to intellectual property, innovation, and development in the 21st Century.

Recommendation 1

**Intellectual Property and Poverty**

There is a need to better integrate and reconcile intellectual property, innovation policy, and development as part of the Sustainable Development Goals.

SDG2. Intellectual Property and Food Security

There has been much debate about the relationship between intellectual property, agriculture, nutrition, and food security. There has been a combination of forms of intellectual property deployed in the field of agriculture – both a use of general regimes such as patent law, trademark law, and trade secrets, together with specialist regimes such as plant breeders’ rights, geographical indications, and data protection for agricultural chemicals. In addition, there has also been an extensive use of contracts and technology user agreements in the area of agriculture, as well speculation about the deployment of genetic use restriction technologies.

There has been a concern about whether the expansion of intellectual property will impact sustainable development goals related to hunger (Sustainable Development Goal No. 2). Dean Baker, Arjun Jayadev and Joseph Stiglitz have commented:

Agricultural IPR poses high costs to the economic independence of the rural poor and the biodiversity and resilience of plant life. A small number of developed country companies have enormous market power within the global food system, and the public sector on which the world’s poor rely for
subsistence research and development is shrinking in their wake. Thickets of IPR complicate access to fundamental research inputs, and farmers have been disempowered from the community practices that have been the lifeblood of agriculture for thousands of years.13

There has been a call for a rearticulation of the rights and exceptions available under various forms of intellectual property related to agriculture.

Recommendation 2

Intellectual Property and Food Security

There has been a call for a rearticulation of the rights and exceptions available under various forms of intellectual property related to agriculture, nutrition, and food security.

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SDG3 (a) Intellectual Property and Access to Essential Medicines

There has been generations of conflict over patent law and access to essential medicines.\(^{14}\)

Target 3.3 of the Sustainable Development Goals aims to ‘by 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.’ Target 3.8 emphasizes the need to ‘achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all.’

Target 3B calls for countries to ‘Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.

The UN Secretary-General’s High Level Panel Report makes a number of recommendations to overcome past conflicts and deadlocks over access to medicines. The report stresses that countries should avail themselves of intellectual property flexibilities to address public health concerns. The report also recommends the adoption of alternative measures of supporting research and development. The report stresses the importance of open access to research in respect of public health and medicine. The report also stresses the importance of transparency and accountability in respect of global public health institutions.

Discussing the publication of the UN Secretary-General’s High Level Panel Report on access to essential medicines, the Hon. Michael Kirby emphasized the importance of the Sustainable Development Goals. He noted that SDG 3 sets the goal of access to essential healthcare for everyone by 2030. Kirby wonders, Yet how can that be achieved given the imperfections of the economic market? How can expensive drugs subject to patent be provided to people in low and middle income countries, given the earlier experience of HIV/AIDS? How can the diseases of developing countries attract adequate funding? Kirby contends that there is

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a need to reconcile the international human rights principle of a right to health with the international intellectual property rules of the World Trade Organisation (TRIPS Agreement and Doha Declaration).

In 2018, WHO, WIPO, and the WTO held a technical symposium on sustainable development goals, focusing upon innovative technologies to promote healthy lives and well-being.¹⁷

Recommendation 3a

Intellectual Property and Access to Essential Medicines

There is a need to implement the UN Secretary-General’s High Level Panel Report in order to overcome past conflicts and deadlocks over access to medicines, and promote human rights, sustainable development, and innovation.

SGD 3 (B) Intellectual Property and Tobacco Control

Tobacco control can also be seen as part of the Sustainable Development Goals. The Sustainable Development Goals include an item on public health – which calls for governments to ‘ensure healthy lives and promote well-being for all at all ages’.¹⁸ Article 3a of the Sustainable Development Goal on Health reads: ‘Strengthen implementation of the Framework

Convention on Tobacco Control in all countries as appropriate.’ The World Health Organization has highlighted the tobacco epidemic undermines a number of the global goals of sustainable development. In this context, tobacco is seen as a barrier to sustainable development. There has been concern about the impact of ISDS upon the sustainable development goals.

My research considers the long history of tobacco companies deploying trade mechanisms and investor clauses to challenge tobacco control measures – such as graphic health warnings and plain packaging of tobacco products. The Australian Government has successfully defended plain packaging of tobacco products in the High Court of Australia.

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19 Ibid.


products in an investment tribunal with Philip Morris. Moreover, the Australian Government has defended plain packaging of tobacco products in a World Trade Organization dispute.

It has been surprising to see that the tobacco industry have been trying to depict themselves as friends of sustainable development in this inquiry (see submission 137). The World Health Organization has been of the view that tobacco industry is a significant and pernicious threat to sustainable development.

**Recommendation 3b**

**Intellectual Property and Tobacco Control**

Tobacco control is a key part of the Sustainable Development Goals. Article 3a of the Sustainable Development Goal on Health reads: ‘Strengthen implementation of the Framework Convention on Tobacco Control in all countries as appropriate.’ The World Health Organization has highlighted the tobacco epidemic undermines a number of the global goals of sustainable development. In this context, there is a need for Australia to continue to provide leadership on tobacco control at a national and an international level.

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SDG 4. Intellectual Property, Education, and Access to Knowledge

There has been a long history of debate over international copyright law and access to knowledge.\textsuperscript{26} Canadian Research Chair Associate Professor Sara Bannerman comments that it has a contested history:

The history of the international copyright system has been portrayed as a progressive history of justice for authors and other creators, modernization and civilization. This historical narrative tends to be obscure the inequality and exploitation that also marks the history of international copyright… The international copyright system is thus intricately connected to colonialism and economic imperialism.\textsuperscript{27}

There is a need for a more expansive conception of access to knowledge. Sara Bannerman notes: ‘Visions of development and access to knowledge differ not just over time and between countries, but are also contested within the polity of each country, and within particular institutions.’\textsuperscript{28}

As Carolyn Deere Birkbeck has noted, ‘a broader A2K social movement has emerged in favor of embedding policymaking on IP in the context of development goals and the public interest imperatives of more affordable access to scientific advances, medicines, education, and culture.’\textsuperscript{29}


\textsuperscript{27} Ibid., 4-5.

\textsuperscript{28} Ibid., 11.

In their work on *Creating a Learning Society*, Joseph Stiglitz and Bruce Greenwald express concern about the impact of intellectual property upon education:

> ‘The direct effect of IPR is to impede the flow of knowledge and therefore impede the learning process. We have seen that there is an indirect effect – encouraging secrecy – which can be particularly adverse when IPR is extended to traditionally open institutions like universities. Offsetting these costs allegedly are the strong incentives for innovation and for the acquisition of information.’

Stiglitz and Greenwald highlight a number of dangers of over-protection of intellectual property – including inhibiting follow-on innovation; enclosing the Knowledge Commons; encouraging secrecy; litigation risk and ambiguous boundaries; IP thicket; and IP abuses. Stiglitz and Greenwald call for redesigning the intellectual property regime to promote learning.

Jessica Stevens, Stephanie Bradbury and Sue Hutley have advocated the adoption of open educational resources.31

Professor Virginia Barbour has advocated the creation of open access infrastructure to help facilitate the promotion of education and sustainable development.32

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The development of the *WIPO Marrakesh Treaty* to address the book famine for those with visual disabilities could be seen as an aspect of the sustainable development focused on education.33

**Recommendation 4**
**Intellectual Property, Education, and Access to Knowledge**

There is a need to reform intellectual property laws, practices, and policies in order to promote education, access to knowledge, and a learning society.

**SDG 5. Intellectual Property and Gender Equality**

As well documented by legal and cultural historian Eva Hemmungs Wirten, there have been persistent problems with gender bias and gender discrimination under various regimes of intellectual property.34

There has been failures in recognising women as authors of both creative work, and scientific work. There has been a push to recognise neglected women creators and inventors (see, for instance, the film *Hidden Figures*).


As USPTO Director, Michelle K. Lee was ‘disheartened to learn of a recent study that showed just how disparately women are represented in the innovation community’. She noted: ‘This particular study showed that women represented no more than 15% of all inventors and that at the current rate it will take another 140 years for women to obtain parity with their male inventor counterparts.’ Lee sought support STEM education and employment for women: ‘Improving the numbers of women inventors requires a long-term approach, and that’s why, at the USPTO, we have a number of initiatives underway to help.’

The WIPO’s data has shown that only 30.5% of international patent applications filed under the Patent Cooperation Treaty include a female inventor.

The WIPO has adopted a 2014 policy on intellectual property and gender equality. This policy is designed to empower women within the organization and in the wider world of intellectual property.

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The American University Washington College of Law has held an annual symposia on intellectual property and gender. As Kara Swanson has reflected, there remain opportunities and challenges in the field of intellectual property and gender studies.40

There are certainly particular issues in respect of gender equality, Indigenous intellectual property, and REDD+.41

Recommendation 5
Intellectual Property and Gender Equality

There is a need to end gender discrimination in respect of intellectual property laws, policies, and practices.


Maude Barlow is the chairperson of the Council of Canadians, and the founder of the Blue Planet Project. She is a recipient of Sweden’s Right Livelihood Award, and a Lannan Cultural Freedom Fellowship. As well as being a noted human rights and trade activist, Barlow is the author of a number of books on water rights – including *Blue Gold*,42 *Blue Covenant*,43 and *Blue Future*44. She has worried about the commodification of water – including through intellectual property rights. She has been particularly concerned about the impact of trade and investment agreements upon water rights.

There has certainly been a growth in respect of patents in respect of water technology. Foley’s Water Technology U.S. Patent Landscape Annual Report has analysed U.S. patent activity in water technology sectors to identify the trends in water innovation.45 The report notes: ‘The current trends in water technology and innovation not only illustrate new business endeavors, but also new opportunities for government to regulate water quality.’46 The report observes: ‘This wave of technology has prompted the next generation of water quality regulation — born out of water scarcity issues and the pursuit of sustainable production

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46 Ibid.
methods’.

The report concludes: ‘The convergence between the next generation of water quality regulation, water scarcity, and the nexus between water and energy (for sustainability), will likely stimulate continued global innovation in new technology and the application of existing technology in new ways.’

Recommendation 6

Intellectual Property, Clean Water and Sanitation

The intellectual property regime does need to take into account the human right to clean water.

SDG 7. Intellectual Property and Affordable and Clean Energy

Sustainable Development Goal 7 focuses on ‘access to affordable, reliable, sustainable and modern energy for all.’ Target 7.1 provides: ‘By 2030, ensure universal access to affordable, reliable and modern energy services’ Target 7.2 hopes: ‘By 2030, increase substantially the share of renewable energy in the global energy mix’. Target 7.3 recommends: ‘By 2030, double the global rate of improvement in energy efficiency.’

There has been significant investment in respect of renewable energy – particularly in respect of solar, wind, hydro, geothermal, and other technologies. There has also been much

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47 Ibid.
48 Ibid.
49 Matthew Rimmer, Intellectual Property and Climate Change: Inventing Clean Technologies, Cheltenham (UK) and Northampton (Mass.): Edward Elgar, September 2011; and Matthew Rimmer, 'A Proposal
innovation in respect of energy efficiency, green transportation, and smart cities. There is a need to examine new energy projects. Elon Musk and Tesla have adopted an open innovation approach to help accelerate the adoption of electric vehicles, batteries, and other clean technologies.  

Aleesha Rodriguez has explored whether the Tesla Battery project in South Australia represents energy justice or just business as usual. There has also been a rise in community-owned renewable energy projects.

There has been increasing litigation in respect of intellectual property and clean technologies. There have been disputes over patents relating to hybrid cars, climate-ready crops, and smart grids. There have been conflicts between the United States and China over trade secrets relating to renewable energy.

There have been other technologies in which there has been debate over whether they deserve classification as clean technologies. The environmental credentials of biofuels have been contested. Geoengineering has been an even more controversial field in terms of intellectual

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property and environmental regulation. There has also been debate over whether fossil fuels should be protected under intellectual property regimes.55

### Recommendation 7

**Intellectual Property and Affordable and Clean Energy**

Intellectual property should promote the sustainable development goal of encouraging ‘access to affordable, reliable, sustainable and modern energy for all.’

### SDG 8. Intellectual Property, Decent Work and Economic Growth

Sustainable Development Goal 8 looks to ‘promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.’ Target 8.3 seeks to ‘Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.’ The targets consider questions around economic development, productivity, resource efficiency, full employment, labor rights, training, and access to financial services.

There is a growing literature on the relationship between intellectual property, employment, and economic growth. Professor Orly Lobel has focused on conflicts between

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closed proprietary approaches to intellectual property, and open innovative strategies relying upon labor mobility.\textsuperscript{56} There has been striking conflicts over the ownership of copyright works – particularly between creators, intermediaries, and copyright industries. There have been disputes over the ownership of patents between researchers, universities, and industry. The growth of trade secrets law has been a significant development in terms of intellectual property and employment.

\textbf{Recommendation 8}

**Intellectual Property, Decent Work and Economic Growth**

There is a need to further explore the relationship between intellectual property, employment, and economic growth.

\textbf{SDG 9. Intellectual Property and Innovation}

As discussed, the Director-General of WIPO Francis Gurry sees intellectual property as playing a central and significant role in achieving Sustainable Development Goal No. 9 relating to innovation. There remains much debate as to the appropriate relationship between intellectual property and innovation policy.

In his 2016 book, \textit{Rewriting the Rules of the American Economy}, Joseph Stiglitz contends that there is a need to restore balance to intellectual property rights:

A legal framework and supporting institutions must provide appropriate incentives for innovation and encourage investment. But incentives must be balanced with the imperative for innovations and the associated knowledge to be widely dispersed and accessible in the interest of fair compensation. IPRs can be written to achieve this balance, but our intellectual property regime has lost its sense of balance.57

As well as calling for intellectual property reforms, Stiglitz also calls for the adoption of alternative measures to support research and development – such as prizes, public interest funding, and open source projects.

There is a need to ensure that the benefits of new technologies are accessible and shared.58

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**Recommendation 9**

**Intellectual Property and Innovation**

As discussed, the Director-General of WIPO Francis Gurry sees intellectual property as playing a central and significant role in achieving Sustainable Development Goal No. 9 relating to innovation. There remains much debate as to the appropriate relationship between intellectual property and innovation policy.

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SDG 10. Intellectual Property and Inequality

In a number of books, Joseph Stiglitz explores the great divide of inequality. Intellectual property is one of the areas in which he has expressed concerned about the rise of inequality. Stiglitz was an advocate of focusing on inequality in the development of the Sustainable Development Goals.

Joseph Stiglitz has been concerned about how intellectual property may reinforce inequality. Writing about the dispute over Myriad Genetics’ gene patents relating to breast and ovarian cancer, Stiglitz commented: ‘The case was a battle between those who would privatize good health, making it a privilege to be enjoyed in proportion to wealth, and those who see it as a right for all — and a central component of a fair society and well-functioning economy.’ He observed: ‘Even more deeply, it was about the way inequality is shaping our politics, legal institutions and the health of our population.’ Stiglitz welcomed the ruling of the Supreme Court of the United States against Myriad Genetics: ‘That the court decision has upheld our cherished rights and values is a cause for a sigh of relief’. Nonetheless, he was

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61 Ibid.

62 Ibid.

63 Ibid.
concerned: ‘But it is only one victory in the bigger struggle for a more egalitarian society and economy.’

There is a need to ensure that intellectual property law, policy, and practice reduces – rather than enhances – inequality.

**Recommendation 10**

**Intellectual Property and Inequality**

There is a need to ensure that intellectual property law, policy, and practice reduces – rather than exacerbates – inequality.

**SDG 11. Intellectual Property, Sustainable Cities and Communities**

Sustainable Development Goal 11 hopes to make cities and human settlements inclusive, safe, resilient and sustainable. Targets 11.1, 11.2, and 11.3 focus upon access to housing, transportation, and urbanisation. Target 11.4 calls for nations to ‘Strengthen efforts to protect and safeguard the world’s cultural and natural heritage’. Target 11.5 focuses upon disasters. Target 11.6 looks at the environmental impact of cities. Target 11.7 discusses the importance of the commons in cities.

As the work of Dr Peter Walters indicates, megacities in South East Asia face a number of significant challenges in terms of the informal economy, corruption, social inclusion,
citizenship and civil society.\textsuperscript{65} He argues that, while these challenges are located in the global south, citizens of affluent industrialised nations will all have a stake in this challenge.

There has been significant work undertaken by C40 for cities to tackle the challenges of climate change.\textsuperscript{66} Mike Bloomberg and Carl Pope discuss the role of cities as innovators\textsuperscript{67} They contend that ‘cities are actually key to saving the planet.’\textsuperscript{68}

There has also been significant investments in intellectual property relating to smart cities, green transportation, and waste management. The development of smart cities has raised significant issues about Big Data, privacy, and surveillance.

The discipline of law and geography is increasingly interested in the legal regulation of space. In terms of property law and intellectual property law, the language and discourse of the commons has been important in terms of defining the public domain.

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\textbf{Recommendation 11}

\textbf{Intellectual Property, Sustainable Cities and Communities}

There is a need to investigate the role of intellectual property law in the construction of sustainable cities and communities.
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\textsuperscript{66} C40, \url{https://www.c40.org/history}
\textsuperscript{68} Ibid., 20.
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SDG 12.  Intellectual Property and the Circular Economy

Sustainable Development Goal No. 12 is focused on responsible production and consumption.

Kyle Wiens of iFixit and Dozuki has been concerned that intellectual property is putting circular economy in jeopardy. He has commented:

The trouble is, most manufacturers don't embrace the open markets, especially when it comes to reuse. Reusing and repurposing devices may require technicians to reverse engineer them, to hack them, and to digitally unlock them. Repairing modern machinery requires access to diagnostic codes, circuit schematics, and replacement parts that manufacturers zealously protect. And refurbishing can require access to proprietary tools that manufacturers have been historically reticent to share.

Wiens wonders: ‘Imagine how much more manufacturers could accomplish if they worked with the open market, instead of against it.’ He contends: ‘The market opportunity is immense in providing tools and services to the thousands of small businesses that specialise in reuse, refurbishment, repair, and recycling.’ In his view, ‘An inclusive ecosystem is the best shot we have at closing the loop.’ Wiens reflects: ‘Without them, we won't reach the economies of scale that the circular economy needs.’

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70  Ibid.
71  Ibid.
72  Ibid.
73  Ibid.
74  Ibid.
There has been discussion of how the intellectual property regime may be reformed to better support a circular economy. In the context of 3D printing, there has been debate as to whether the emerging technology will produce sustainable outcomes, or contribute to a junk economy.\footnote{Dinusha Mendis, Mark Lemley, and Matthew Rimmer (ed.), \textit{3D Printing and Beyond: Intellectual Property and Regulation}, Cheltenham (UK) and Northampton (Mass.): Edward Elgar, 2019.}

\begin{mdframed}
\textbf{Recommendation 12}
\textbf{Intellectual Property and the Circular Economy}

Sustainable Development Goal No. 12 is focused on responsible production and consumption. There has been discussion of how the intellectual property regime may be reformed to better support a circular economy – particularly in respect of the development of a right to repair.
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\textbf{SDG 13. Intellectual Property and Climate Change}


The United Nations Secretary-General Ban Ki-Moon has commented: ‘Intellectual property, technology transfer, and financing are among a wide range of topics that must be addressed in the context of climate change and sustainable development’. The Paris Climate
Talks considered a number of issues related to intellectual property, technology transfer, finance, and climate change

Draft Article 56.3 laid down a number of options. The first option suggests a number of possibilities to facilitate technology transfer. Item A suggests that developed countries ‘provide financial resources to address barriers caused by intellectual property rights (IPRs) and facilitate access to and the deployment of technology, including inter alia, by utilizing the Financial Mechanism and/or the establishment of a funding window under the Green Climate Fund / the operating entities of the Financial Mechanism.’ Item B calls for ‘an international mechanism on IPRs to be established to facilitate access to and the deployment of technology to [developing country Parties].’ Item C calls for other arrangements to be established to address intellectual property rights – such as ‘collaborative research and development, shareware, commitments related to humanitarian or preferential licensing, fully paid-up or joint licensing schemes, preferential rates and patent pools.’ Item D suggests that ‘funds from the Green Climate Fund will be utilized to meet the full costs of intellectual property rights (IPRs) of environmentally sound technologies and know-how and such technologies will be provided to developing country Parties free of cost in order to enhance their actions to address climate change and its adverse impacts.’ The second option is that ‘Parties recognize that IPRs create an enabling environment for the promotion of technology innovation in environmentally sound technologies.’ The third option favoured by developed countries is that ‘IPRs are not to be addressed in this agreement.’ The fourth option is for ‘Developed country Parties to make available Intellectual Property (IP) through multilateral institutions as public good, through purchase of intellectual property.’

The final text of the Paris Agreement 2015 avoids dealing with intellectual property and climate change directly. Nonetheless, there are glancing references to traditional knowledge in the context of a larger debate about Indigenous Knowledge. There is some
extensive text, more generally, about technology research, development, and dissemination in the *Paris Agreement* 2015. At the Paris talks, Indian Prime Minister Narendra Modi contended that: ‘Our innovation initiative should be driven by public purpose, not just market incentives, including on IP.’ He emphasized that: ‘We need to scale up the Green Climate Fund that will improve access to technology and intellectual property.’ For his part, US President Barack Obama flagged that he was willing to engage in a dialogue over matters of technology transfer.

The Paris Climate Talks also saw a number of announcements on innovation – including Mission Innovation, the Breakthrough Energy Coalition, and the International Solar Alliance.

In their work on intellectual property, innovation, and development, Dean Baker, Arjun Jayadev and Joseph Stiglitz commented upon the important context of climate change:

> Developing countries have made many attempts in recent years to put the relationship between IPR and climate change on the table. Although the limited evidence does not yet appear to demonstrate general negative impacts on access, evidence that IPR may be used to price developing countries out of cutting edge climate research should be taken seriously by policymakers concerned to enhance the learning capacities of developing economies.77

The writers recommend that there is a need for intellectual property law to better address the global threat of climate change.

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Recommendation 13
Intellectual Property and Climate Change

There is a need to establish and harmonise international rules on intellectual property and climate change, cutting across international fora such as the UNFCCC, WIPO, and the WTO.


Marine biodiscovery has raised significant issues in terms of intellectual property, access to genetic resources, and the law of the sea.\(^78\)

There has been concern about inequalities in respect of genetic ownership of ocean life.\(^79\) A 2018 study highlighted ‘the importance of inclusive participation by all states in international negotiations and the urgency of clarifying the legal regime around access and benefit sharing of marine genetic resources.’\(^80\)

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\(^80\) Robert Blasiak et al. ‘Corporate Control and Global Governance of Marine Genetic Resources’, (2018) 4 (6) Science Advances [http://advances.sciencemag.org/content/4/6/eaar5237](http://advances.sciencemag.org/content/4/6/eaar5237)
There has been recently been discussions in the United Nations in 2018 over who should benefit from DNA collected from the high seas.  

There are also significant issues relating to ocean acidification, ocean deoxygenation, and warming oceans.

The impact of climate change upon oceans will also have significant implications for food security, given the dependence of coastal and island states on seafood.

**Recommendation 14**

**Life Below Water**

There is a need to address intellectual property, marine biodiscovery, and climate change.

**SDG 15 Life on Land**

The Convention on Biological Diversity 1992, the Bonn Guidelines 2001, and the Nagoya Protocol 2010 establish a regime for access to genetic resources, and the fair and equitable sharing of benefits arising from their utilisation. A similar model has been established in

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respect of plant genetic resources, which has underpinned the development of seed banks.\textsuperscript{84} There has also been consideration of the protection of traditional knowledge and Indigenous intellectual property in respect of access to genetic resources.\textsuperscript{85}

Sustainable Development Target 15.6 calls on nations to ‘Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed.’ The United Nations has noted that ‘Progress in preserving and sustainably using the Earth’s terrestrial species and ecosystems is uneven’. In its progress report, the United Nations commented: ‘The pace of forest loss has slowed and improvements continue to be made in managing forests sustainably and protecting areas important for biodiversity’. The United Nations observed: ‘However, declining trends in land productivity, biodiversity loss and poaching and trafficking of wildlife remain serious concerns.’


Professor Charles Lawson has been concerned that the grand plan of balancing conservation and economic development has been thwarted.\(^{86}\)

Moreover, the emergence of new regional frameworks may further undercut multilateral efforts in respect the protection of biodiversity.\(^{87}\)

**Recommendation 15**

**Life on Land**

There is a need to strengthen access to genetic resources regimes in order to achieve Sustainable Development Goals.

**SDG 16. Peace, Justice, and Strong Institutions**

Sustainable Development Goal 16 looks at peace, justice, and strong institutions. Target 16.3 calls on nations to ‘Promote the rule of law at the national and international levels and ensure equal access to justice for all.’ Nobel Laureate Joseph Stiglitz has expressed concerns about access to justice in his book, *The Price of Inequality*:

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‘Even access to the legal system is expensive, and that gives an advantage to large corporations and the wealthy. We talk about the importance of intellectual property, but we have designed an expensive and unfair intellectual property regime that works more to the advantage of patent lawyers and large corporations than to the advancement of science and small innovators’.  

In this context, there is a need to ensure that there are fair and equitable institutions governing intellectual property.

**Recommendation 16**

**Peace, Justice, and Institutions**

**Goal 16 looks at peace, justice, and strong institutions. In this context, there is a need to ensure that there are fair and equitable institutions governing intellectual property.**

**SDG 17. Partnerships.**

Sustainable Development Goal 17 considers partnerships to achieve the Global Goals. A number of the targets consider matters of technology. Target 17.6 calls to ‘Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism.’ Target 17.7 asks nations to ‘promote the development, transfer, dissemination and diffusion of

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environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed.’ Target 17.8 calls for nations to ‘Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology.’ The targets also explore issues of finance, capacity building, systemic issues, trade, and policy and institutional coherence.

Leading expert Professor Margaret Chon of the Seattle University School of Law and her collaborators have focused on the development of public-private partnerships in order to address the governance of intellectual property and sustainable development. She has provided selective case studies to help explain the linkage of a global governance of knowledge – covering innovation, capacity-building, technological learning, and diffusion.

**Recommendation 17**

**Partnerships**

**Sustainable Development Goal 17** highlights the importance of partnerships to achieve the Global Goals. In the context of intellectual property, there is a need to develop public-private partnerships in order to address the governance of

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intellectual property and sustainable development. Furthermore, there needs an effective global technology facilitation mechanism.
Biography

Dr Matthew Rimmer is a Professor in Intellectual Property and Innovation Law at the Faculty of Law, at the Queensland University of Technology (QUT). He is a leader of the QUT Intellectual Property and Innovation Law research program, and a member of the QUT Digital Media Research Centre (QUT DMRC) the QUT Australian Centre for Health Law Research (QUT ACHLR), and the QUT International Law and Global Governance Research Program (QUT IP IL). Rimmer has published widely on copyright law and information technology, patent law and biotechnology, access to medicines, plain packaging of tobacco products, intellectual property and climate change, and Indigenous Intellectual Property. He is currently working on research on intellectual property, the creative industries, and 3D printing; intellectual property and public health; and His work is archived at QUT ePrints SSRN Abstracts Bepress Selected Works.

Dr Matthew Rimmer holds a BA (Hons) and a University Medal in literature (1995), and a LLB (Hons) (1997) from the Australian National University. He received a PhD in law from the University of New South Wales for his dissertation on The Pirate Bazaar: The Social Life of Copyright Law (1998-2001). Dr Matthew Rimmer was a lecturer, senior lecturer, and an associate professor at the ANU College of Law, and a research fellow and an associate director of the Australian Centre for Intellectual Property in Agriculture (ACIPA) (2001 to 2015). He was an Australian Research Council Future Fellow, working on Intellectual Property and Climate Change from 2011 to 2015. He was a member of the ANU Climate Change Institute.

Dr Matthew Rimmer has engaged with the topic of intellectual property and sustainable development in a variety of ways. He has published work on a number of dimensions relating to intellectual property and sustainable development – including copyright law, education, and
access to knowledge; tobacco control and plain packaging of tobacco products; access to essential medicines; intellectual property and food security; intellectual property and clean energy; access to genetic resources; and sustainable development and small island states. He has hosted a number of events – including a symposium on *The Geneva Declaration: Intellectual Property and Development* on the 17th June 2005 at the ANU College of Law, and a symposium on *Intellectual Property and Sustainable Development* on the 6th September 2018 at the QUT Faculty of Law. Rimmer has extensively participated in Australian parliamentary inquiries into intellectual property and trade, as well as public policy processes, such as investigations by the Productivity Commission.

Rimmer is 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). Rimmer explores the significance of key judicial rulings and considers 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. Rimmer has 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* 2011, and the *Trans-Pacific Partnership*. He has been an advocate for Fair IT Pricing in Australia.

Rimmer is 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. Rimmer also edited the thematic issue of Law in Context, entitled *Patent Law and Biological Inventions* (Federation Press, 2006). Rimmer was also a chief investigator in an Australian Research Council Discovery Project, “Gene Patents In Australia: Options For Reform” (2003-2005), an Australian Research Council Linkage Grant, “The Protection of Botanical Inventions (2003), and an Australian Research Council Discovery Project, “Promoting Plant Innovation in Australia” (2009-2011). Rimmer has participated in inquiries into plant breeders’ rights, gene patents, and access to genetic resources.

Rimmer is 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). 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. Rimmer is also a co-editor of *Intellectual Property and Emerging Technologies: The New Biology* (Edward Elgar, 2012).

Rimmer is a researcher and commentator on the topic of intellectual property, public health, and tobacco control. He has undertaken research on trade mark law and the plain packaging of tobacco products, and given evidence to an Australian parliamentary inquiry on the topic. Rimmer has edited a special issue of the QUT Law Review on the topic, *The Plain Packaging of Tobacco Products* (2017).

Rimmer is 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. Rimmer is currently working on a manuscript, looking at green branding, trade mark law, and environmental activism. He is the editor of the forthcoming collection, *Intellectual Property and Clean Energy: The Paris Agreement and Climate Justice* (Springer, 2018).

Rimmer has also a research interest in intellectual property and traditional knowledge. He has written about the misappropriation of Indigenous art, the right of resale, Indigenous performers’ rights, authenticity marks, biopiracy, and population genetics. Rimmer is the editor of the collection, *Indigenous Intellectual Property: A Handbook of Contemporary Research* (Edward Elgar, 2015).

Rimmer is currently working as a Chief Investigator on an ARC Discovery Project on “Inventing The Future: Intellectual Property and 3D Printing” (2017-2020). This project aims to provide guidance for industry and policy-makers about intellectual property, three-dimensional (3D) printing, and innovation policy. It will consider the evolution of 3D printing, and examine its implications for the creative industries, branding and marketing, manufacturing and robotics, clean technologies, health-care and the digital economy. The project will examine how 3D printing disrupts copyright law, designs law, trade mark law, patent law and confidential information. The project expects to provide practical advice about intellectual property management and commercialisation, and boost Australia’s capacity in advanced manufacturing and materials science. Along with Dinusha Mendis and Mark Lemley, Rimmer is the editor of the forthcoming collection, *3D Printing and Beyond* (Edward Elgar, 2018).