

# INTELLECTUAL PROPERTY RIGHTS AND CLIMATE CHANGE

As the world confronts global warming, there is a growing consensus that the TRIPS Agreement could be a more effective instrument for mitigating climate change. In this innovative work, Wei Zhuang systematically examines the contextual elements that can be used in the interpretation of the TRIPS Agreement with a view to enhancing innovation and transfer of environmentally sound technologies. Zhuang proposes a balanced and pro-competitive interpretation that could be pursued by policy makers and negotiators. This comprehensive multidisciplinary study will help academics and policy-makers improve their understanding of the contemporary international legal regimes governing intellectual property rights and innovation and transfer of environmentally sound technologies. It also offers practical guidance for further developing a legal system capable of responding to the challenges posed by climate change.

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# Intellectual Property Rights and Climate Change

INTERPRETING THE TRIPS AGREEMENT FOR ENVIRONMENTALLY SOUND TECHNOLOGIES

**WEI ZHUANG** 

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#### Foreword

The implications of intellectual property have been extensively studied in some areas, such as those relating to public health and, to a lesser extent, food security. A large number of books, journal articles and other documents have been published on issues relating to access to medicines, and on modalities of intellectual property protection for seeds. There is also a growing number of scholarly contributions and other studies on such protection as applied in the field of environmental technologies, including on the role that patents may play as incentives for innovation or as potential obstacles for the dissemination of those technologies.

Despite the global consensus about the need to address the effects of climate change, the North-South divergences that have characterized the debates on intellectual property, public health and food security have also emerged in relation to environmental technologies. There is great disagreement on the best ways in which the development and diffusion of the required technologies will be encouraged. Thus, in the negotiations conducted in the context of the United Nations Framework Convention on Climate Change (UNFCCC), some developing countries submitted proposals aiming at the exclusion from patent protection of environmentally sound technologies (ESTs) or subjecting them to compulsory licenses. One developing country submitted to the Council for TRIPS in WTO a proposal to carve out an exception under the TRIPS Agreement for such technologies. Not surprisingly, these proposals have encountered a strong opposition from developed countries, which account for an overwhelming share of the granted patents relating to ESTs worldwide.

The impact of intellectual property in relation to ESTs also became an important issue in the debates leading to the adoption of the Sustainable Development Goals (SDGs). In its Synthesis report on the Sustainable Development Goals, UN Secretary General called upon governments to



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"make substantial progress in the development, transfer and dissemination of such technologies and knowledge to developing countries on favourable, concessional and preferential terms", and to "ensure that our global intellectual property regimes and the application of the flexibilities of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) are fully consistent with and contribute to the goals of sustainable development".

The subject of development and diffusion of ESTs is particularly complex, because – unlike the case of medicines and seeds – ESTs comprise a wide range of technologies including, inter alia, solar photovoltaic, geothermal, wind, and carbon capture technologies. The modes of production and exploitation of ESTs vary significantly, as well as the extent to which patents and other forms of intellectual property rights may prevent competition and, in particular, the transfer of technology to developing countries to deal with the effects of climate change. Despite the progress made in some fields in countries such as China and India, the North-South technological asymmetry is, overall, deep and limitations to the access to protected technologies may not only undermine national and regional but also global efforts regarding adaptation to and mitigation of climate change.

This book contains what is perhaps the first comprehensive study on the characteristics and possible implications of the international intellectual property and technology transfer regime as applied to ESTs. To this end, the author delves into the foundations of intellectual property and reviews the historical developments that have led to the current international system, including the failed initiative to adopt an International Code on Transfer of Technology. As a starting point for characterizing the problem existing in this field, the book presents an exhaustive literature review and explores which countries are major ESTs creators, which countries derive income from intellectual property rights associated to those technologies, and how the TRIPS Agreement influences the trends of technology transfer. Valuable insights on the available empirical information are provided in this respect. Importantly, this book is the outcome of an interdisciplinary research combining economics and various disciplines of national and international law, including law of the treaties, WTO law and competition law.

Although the study of international intellectual property rules is the core of the book, it also examines the EST transfer obligations under the UNFCCC Agreement, and the extent to which they have been complied with. The author explores who the obligation-bearers are, whether EST transfer commitments are binding on Parties, what kinds of mechanisms exist for the implementation of EST transfer and whether they are adequate. This analysis



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is of particular importance to understand the failure of the current system to ensure a wide dissemination of climate change mitigation and adaptation technologies.

As noted, the author undertakes a thorough analysis of the minimum standards incorporated into the TRIPS Agreement and the room they leave for innovation through imitation and technology transfer to developing countries. This study is particularly relevant for ESTs. But the discussion of the main interpretive issues presented by the TRIPS Agreement and the positions taken by WTO panels and the Appellate Body provide useful elements to consider the extent of obligations under that Agreement in any field of technology. The same comment applies to the detailed analysis of the patent-and competition-related provisions of said Agreement. Without losing its focus on ESTs, the careful interpretation (based on the principles of the Vienna Convention on the Law of Treaties) offered by the author is relevant and useful beyond the field of ESTs.

Based on the analysis carried out, the author confirms a number of "TRIPS flexibilities" allowed by the TRIPS Agreement. Although there is a vast literature on the subject, she specifically explores how to make the TRIPS Agreement a more efficient and effective instrument for facilitating innovation and transfer of ESTs through legal interpretations.

Among other important contributions made by this book, it is worth mentioning the empirical study on the global distribution of innovation and international transfer of ESTs based on the latest available data; a comprehensive study of the effects of the minimum standards contained in the TRIPS Agreement on innovation and transfer of ESTs to developing countries; a thorough exploration of the contextual elements for interpreting the TRIPS Agreement for facilitating innovation and transfer of ESTs; and concrete recommendations on how relevant TRIPS provisions could be interpreted to that end. The author proposes in this respect a Declaration on intellectual property and climate change (similar to the Doha Declaration on the TRIPS Agreement and public health) with a view to confirming a balanced and procompetitive interpretation of the TRIPS Agreement. Given the limited guidance provided by competition-related provisions in the Agreement, the author also briefly recommends international guidelines for licensing of intellectual property protected ESTs.

Carlos Correa Buenos Aires



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#### **Abbreviations**

**ALBA** Bolivarian Alliance for the Peoples of Our America Ad Hoc Working Group on Long-Term Co-operative **AWGLCA** 

Action

**BASIC** Brazil, South Africa, India and China BRIC Brazil, India, China and Russia **CBD** Convention on Biological Diversity

**CBDR** Common but differentiated responsibilities

Carbon capture and storage **CCS** 

Committee on Development and Intellectual **CDIP** 

Property

Clean Development Mechanism CDM Clean energy technologies **CETs** Court of First Instance **CFI** 

Centre for International Environmental Law **CIEL** 

**CISDL** Centre for International Sustainable

Development Law

Court of Justice of the European Union **CJEU** 

 $CO_2$ Carbon dioxide

COP Conference of the Parties **CSP** Concentrated solar power

DOC Document

DSU Dispute Settlement Understanding

European Community EC

**EGTT** Expert Group on Technology Transfer

European Patent Office **EPO** 

**ESTs** Environmentally sound technologies

European Union EU

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xxii List of Abbreviations

FDI Foreign direct investment

FRAND Fair, reasonable and non-discriminatory

FTA(s) Free Trade Agreement(s)
G77 The Group of 77

GATS General Agreement on Trade in Services
GATT General Agreement on Tariffs and Trade

GEF Global Environment Facility

GHGs Greenhouse gases

GPRS General packet radio service
GSP Generalised System of Preferences

HFC-134a Tetrafluoroethane

ICC International Chamber of Commerce

ICTSD International Centre for Trade and Sustainable

Development

IDEA Innovation, Development and Employment Alliance

IGCC Integrated Gasification Combined Cycle

ILC International Law Commission
ILO International Labour Organisation

IP Intellectual Property

IPC International Patent Classification

IPCC Intergovernmental Panel on Climate Change

IPRs Intellectual property rights

IUCN International Union for Conservation of Nature

LED Light-emitting diode

MEAs Multilateral Environmental Agreements

MFN Most favoured nation
MNCs Multinational companies
NGOs Non-governmental organisations
NIEO New International Economic Order

OECD Organisation for Economic Co-operation and

Development

OPEC Organisation of the Petroleum Exporting Countries

PATSTAT Patent Statistical Database PCT Patent Cooperation Treaty

PV Photovoltaic

R&D Research and development

SAIC State Administration for Industry and Commerce

SBI Subsidiary Body for Implementation

SBSTA Subsidiary Body for Scientific and Technological

Advice



**More Information** 

#### List of Abbreviations

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SIDCs Small island developing countries SMEs Small and medium enterprises

SPS Agreement Agreement on the Application of Sanitary and

Phytosanitary Measures

TBT Agreement Technical Barriers to Trade Agreement TEC Technology Executive Committee

TOT Code International Code of Conduct for the Transfer of

Technology

Property Rights

UK United Kingdom UN United Nations

UNCED United Nations Conference on Environment and

Development

UNCLOS United Nations Convention on the Law of the Sea

UNCSD United Nations Conference on Sustainable

Development

UNCTAD United Nations Conference on Trade and

Development

UNDP United Nations Development Programme
UNEP United Nations Environment Programme

UNFCCC United Nations Framework Convention on Climate

Change

UNGA United Nations General Assembly

UNIDO United Nations Industrial Development Organisation UNU-MERIT United Nations University-Maastricht Economic and

Social Research Institute on Innovation and

Technology

US United States
USC United States Code

USD United States Code
USD United States dollars

USPTO United States Patent and Trademark Office VCLT Vienna Convention on the Law of Treaties WCED World Commission on Environment and

Development

WHO World Health Organization

WIPO World Intellectual Property Organization

WTO World Trade Organization



#### Table of Cases

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