

Table of Contents

| | |
|--|----|
| Abstract | 8 |
| I. Introduction | 13 |
| A. Connecting IP with Climate Change | 13 |
| B. Purpose of Research | 13 |
| II. Defining Green Technology | 15 |
| A. Green Technology | 15 |
| 1. What is Green Technology? | 15 |
| 2. Facts and Trends in Green Patent Filing | 16 |
| 3. Increasing Investment and Technology Transfer | 18 |
| III. Background: International Legal Framework for Climate Change | 21 |
| A. Green Technology Innovation and Diffusion under International Law | 21 |
| 1. Declaration of the UN Conference on the Human Environment (1972) | 21 |
| 2. Agenda 21 (1992) | 21 |
| 3. Convention on Biological Diversity (1993) | 21 |
| 4. UN Framework Convention on Climate Change (1994) | 22 |
| a) Responsibility for Vulnerable Countries | 23 |
| b) Push Factors | 23 |
| c) Expert Group on Transfer of Technology | 24 |
| d) Bali Action Plan and Technology Transfer | 24 |
| e) Ad Hoc Working Group on Long-term Cooperative Action | 24 |
| 5. UN Convention to Combat Desertification (1996) | 26 |
| 6. Kyoto Protocol (1997) | 26 |
| B. Compatibility with TRIPS Flexibilities | 27 |
| 1. Technology Transfer Obligation under TRIPS Articles 7, 8(1) and 66(2) | 27 |
| 2. Exceptions to Rights under TRIPS Article 30 | 27 |
| 3. Compulsory Licensing under TRIPS and Beyond | 29 |
| a) For Public Health | 29 |
| b) For Climate Change? | 30 |

| | |
|---|----|
| IV. Role of the Patent System | 33 |
| A. Role of Patent Law | 33 |
| 1. TRIPS Article 27(2) and Ordre Public | 33 |
| 2. Business Method Patents: Bilski and Carbon Trading Inventions | 36 |
| 3. Novelty and ‘Green’ Indication of a Known Substance | 38 |
| 4. Non-obviousness: KSR and Green Technology | 39 |
| 5. ‘Greenness’ and Utility Requirements | 40 |
| B. Role of Patent Policy | 41 |
| 1. Activities by WIPO and Patent Offices | 42 |
| a) World Intellectual Property Organization | 42 |
| (1) Patent Cooperation Treaty | 42 |
| (2) Patent Classification: Catchword Index for Environmentally Sound Technology | 43 |
| (3) WIPO Development Agenda and Climate Change | 43 |
| b) Fast-tracking Services | 44 |
| (1) UK Intellectual Property Office: Green Channel | 44 |
| (2) USPTO: Green Technology Pilot Program | 45 |
| (3) Preferential Treatment for Patenting Green Inventions | 49 |
| (a) Benefits of Early Patenting | 45 |
| (b) Non-discrimination under TRIPS Article 27(1) | 47 |
| (c) Alternative: Verifying ‘Greenness’ Independent from Patent Grant | 49 |
| c) Information Services | 49 |
| (1) European Patent Office | 50 |
| (a) Patents and Clean Energy Project | 50 |
| (b) Classification Scheme for Clean Energy Technologies | 51 |
| (2) Opportunities Provided by Patent Information | 51 |
| (3) Licensing Best Practices | 52 |
| V. Green Technology Transfer and IP | 57 |
| A. Initiatives by IP Communities | 57 |
| 1. Eco-Patent Commons | 57 |
| 2. Japan Intellectual Property Association Proposal | 58 |
| 3. Open Innovation: GreenXchange | 59 |
| B. IP Issues in Green Technology Transfer | 60 |
| 1. Effects of Non-assertion Commitments | 60 |
| 2. IP Ownership in R&D Collaboration | 61 |
| 3. Financing Innovation and Patenting Costs | 62 |

| | |
|---|-----------|
| VI. Balancing IP and Competition | 65 |
| A. Patent Litigation and Developments in Law and Practices | 65 |
| 1. GE's '039 Patent | 65 |
| 2. Patent Law and Practices | 67 |
| B. Standardization and Patent Pooling | 68 |
| 1. Green Technology Standards and Patent Pools | 68 |
| 2. The Unocal Case: Abuse in Law of Environmental Standards | 69 |
| 3. Green Technology Standards and IP Policies | 70 |
| VII. Conclusion | 77 |
| List of Works Cited | 79 |