# Table of Contents

Preface xiii

Acknowledgments xvii

Abbreviations xix

Introduction 1

1 Setting the Scene 11
  1.1 Understanding the Problem 12
  1.1.1 Aviation Market Outlook and Economic Contribution 12
  1.1.2 Aviation under Siege 15
  1.1.3 Climate Change 16
  1.1.4 Aviation and Climate Change 19
  1.1.5 The “Only 2 Percent” Exculpation Argument 23
  1.1.6 The “Communication Problem” Defense 25
  1.1.7 The All-Mighty Technological Efficiencies 25
  1.1.8 Alternative Fuels 28
  1.1.9 Aviation’s Fuel Factor: Is Regulation Needed After All? 30
  1.2 International Legal Regime 32
  1.2.1 UNFCCC/Kyoto Protocol 32
  1.2.2 The EU ETS 34
  1.3 The Political Dimension: A Small Piece within a Bigger Puzzle 35
  1.3.1 The Problems with Lack of Progress 36
  1.3.2 Exogenous Threats 38
  1.4 Conclusion 39

2 Aviation and Climate Change: A Case of Fragmentation of International Law 41
  2.1 The Interaction between International Aviation and the Climate Change Regime 42
  2.1.1 The Kyoto Protocol 42
  2.1.2 ICAO and Climate Change: Some Unanswered Questions 43
  2.1.3 The CBDR/Non-Discrimination Saga 47
  2.2 From Theory to What Happens in Practice 50
### Table of Contents

2.2.1 Understanding Non-Discrimination .................................................. 51
2.2.2 Understanding CBDR ................................................................. 53
2.3 A Look into Fragmentation of International Law ................................. 55
2.3.1 The ILC Report on Fragmentation of International Law .................. 58
2.4 Applying VCLT Rules to the CBDR/Non-Discrimination Saga .......... 62
2.4.1 Systemic Integration and ICAO ................................................. 65
2.5 Attempts to Accommodate the Special Needs of Developing Countries 66
2.5.1 The De Minimis Principle ....................................................... 67
2.5.1.1 The 2010 De Minimis Proposal ....................................... 67
2.5.1.2 The 38th Assembly: A Similar De Minimis Proposal .......... 69
2.5.2 Reinventing CBDR: ICAO’s SCRC ............................................ 71
2.5.2.1 What Is the Difference? .................................................. 72
2.5.2.2 Why Has SCRC Not Worked? ......................................... 74
2.5.3 CBDR Finally Arrives at ICAO through the Back Door ............... 75
2.6 Toward a New Approach: Reconciling Principles ............................... 76
2.6.1 CBDR Is Not Static ............................................................... 76
2.6.2 Avoiding Isolation .................................................................. 78
2.6.3 Reconciling CBDR with Non-Discrimination ................................ 78
2.6.4 From Theory to Practice: Some Design Elements to Consider ...... 80
2.7 Conclusion ................................................................................. 82

3 The International Civil Aviation Organization ....................................... 85
3.1 ICAO’s Institutional Setting .......................................................... 86
3.1.1 Objectives ............................................................................. 87
3.1.2 Governing Structure ............................................................. 91
3.1.3 Constituency ........................................................................ 94
3.1.4 ICAO’s Committee on Aviation Environmental Protection (CAEP) 94
3.1.5 Industry Participation .......................................................... 98
3.1.6 NGO Participation ............................................................... 99
3.2 ICAO and Climate Change ............................................................. 100
3.2.1 Historical Background .......................................................... 100
3.2.2 The Long Road to the CO2 Standard ..................................... 103
3.2.3 State Action Plans ............................................................... 105
3.2.4 Aspirational Goals ............................................................... 106
3.2.5 A Framework for MBMs ....................................................... 108
3.2.6 A Global Scheme for MBMs .................................................. 113
3.3 Conclusion ................................................................................. 116
5.4.2.6 The Surreptitious Effects Doctrine

5.5 The EU ETS, Extraterritoriality, and Principles of International Law

5.5.1 The Nationality Principle

5.5.2 Territorial Principle: The National Airspace Approach

5.5.2.1 Flight Information Regions

5.5.2.2 The 38th Assembly and the Non-Recognition of the Airspace Approach

5.5.2.3 Universal Jurisdiction

5.6 Is the Extraterritoriality of the EU ETS Unprecedented? Other Examples of Extraterritorial Jurisdiction in International Civil Aviation

5.7 Can the Doctrine of State Responsibility Exonerate the EU ETS?

5.8 Conclusion

6 Additional Legal Issues Involving the EU ETS

6.1 Unilateral Action

6.1.1 The Kyoto Protocol, ICAO, and Unilateral State Action

6.1.2 Types of Unilateral State Actions

6.1.3 Where Does the EU ETS Stand?

6.1.4 The EU ETS under the Lenses of Bodansky’s Balanced, Liberal Approach

6.2 The Tax Controversy

6.2.1 Understanding the Genesis of ETS: An Alternative to Taxes

6.2.2 Does Article 15 of the Chicago Convention Prohibit the EU ETS?

6.2.3 Jennison’s Functional Equivalency Theory

6.2.4 Why the EU ETS Is Not a Tax

6.2.5 Does the EU ETS Contravene Article 24 of the Chicago Convention?

6.2.6 Is Braathens Relevant?

6.3 A Scheme Violating WTO Rules?

6.4 An Attack upon CBDR?

6.5 Does the Chicago Convention Matter?

6.5.1 Background

6.5.2 The Theory of Functional Succession

6.5.3 When Strasbourg Negated Chicago

6.5.4 Repercussions

6.6 Conclusion

Table of Contents

6.1 Unilateral Action 212
6.1.1 The Kyoto Protocol, ICAO, and Unilateral State Action 213
6.1.2 Types of Unilateral State Actions 215
6.1.3 Where Does the EU ETS Stand? 219
6.1.4 The EU ETS under the Lenses of Bodansky’s Balanced, Liberal Approach 221
6.2 The Tax Controversy 224
6.2.1 Understanding the Genesis of ETS: An Alternative to Taxes 225
6.2.2 Does Article 15 of the Chicago Convention Prohibit the EU ETS? 229
6.2.3 Jennison’s Functional Equivalency Theory 230
6.2.4 Why the EU ETS Is Not a Tax 232
6.2.5 Does the EU ETS Contravene Article 24 of the Chicago Convention? 236
6.2.6 Is Braathens Relevant? 238
6.3 A Scheme Violating WTO Rules? 239
6.4 An Attack upon CBDR? 241
6.5 Does the Chicago Convention Matter? 244
6.5.1 Background 244
6.5.2 The Theory of Functional Succession 245
6.5.3 When Strasbourg Negated Chicago 247
6.5.4 Repercussions 249
6.6 Conclusion 251
Table of Contents

7 We Are All Ahead of the Curve  253
  7.1 The Theory of Norms and Norm Entrepreneurship  255
  7.1.1 What Are Norms?  255
  7.1.2 The Emergence of Non-State Actors  257
  7.1.3 Who Are Norm Entrepreneurs?  259
  7.1.4 Transnational Networks  262
  7.1.5 What Drives Norm Entrepreneurs?  263
  7.1.6 The Norm’s Life Cycle  264
  7.1.7 Conditions Inducing Norm Entrepreneurship  267
  7.1.8 Influences Hampering Norm Entrepreneurship  268
  7.1.9 Norm Internalization  270
  7.1.10 The Relevance of Regime Architectural Design in the Formation of International Norms  273
    7.1.10.1 Bottom-Up Norm Construction  273
    7.1.10.2 Top-Down Norm Construction  275
  7.2 Who Is the Real Norm Entrepreneur?  276
    7.2.1 Europe  276
      7.2.1.1 An Obstacle or a Building Block for an International Agreement?  276
      7.2.1.2 Why Has the EU ETS Not Led to Norm Cascading?  282
      7.2.1.3 EU ETS and Norm Internalization  285
      7.2.1.4 EU ETS: Significant Contribution or Missed Opportunity?  286
      7.2.2 IATA  286
        7.2.2.1 A Reactive Response: The IATA Four-Pillar Strategy  286
        7.2.2.2 The Fear of Patchwork Regulations  288
        7.2.2.3 The Long Road to the IATA Industry Targets  288
        7.2.2.4 A Global, Sectoral Approach  291
        7.2.2.5 Why Not Binding Industry Self-Regulation?  293
        7.2.2.6 The “Historic” Resolution: Shaping the Future?  295
        7.2.2.7 Exogenous Influences: Some Problems for Sectoral Norm Entrepreneurs  298
        7.2.2.8 An Assessment of IATA’s Norm Entrepreneurship Role  300
      7.2.3 ICAO  301
        7.2.3.1 ICAO: A Norm Entrepreneur or an Institutional Platform?  301
        7.2.3.2 Barriers to Norm Entrepreneurship  302
        7.2.3.3 Assessing ICAO’s Role  310
      7.2.4 The United States  310
        7.2.4.1 Not Just Another Player  310
        7.2.4.2 The United States and Climate Change  311
        7.2.4.3 The United States: Aviation and Climate Change  312
# Table of Contents

7.2.4.4 Changing the Approach: From Resistance to Endorsement 313  
7.2.4.5 Assessing the United States’ Role 313  
7.3 Conclusion 315  

8 The Way Ahead: Key Considerations in Addressing GHG Emissions from International Aviation in the Future 319  
8.1 Addressing Some of the Required Design Elements of the Global MBM Scheme 320  
8.1.1 Reconciling CBDR and Non-Discrimination 320  
8.1.1.1 Route-Based/Phase-In Approach 320  
8.1.1.2 The Potential Value of Voluntary Commitments 332  
8.1.1.3 Potential Criticism 334  
8.1.2 Redirecting Financial Flows 335  
8.1.3 Addressing Fast Growers and Early Movers 337  
8.2 The Challenge of Finding a Legal Vehicle to Enforce Compliance with the Global MBM Scheme 337  
8.2.1 ICAO Standards 338  
8.2.2 ICAO Assembly Resolution 340  
8.2.3 International Convention 341  
8.2.4 Enforcement 343  
8.2.4.1 The Value of Transparency 343  
8.2.4.2 External Enforcers 345  
8.2.4.3 Reporting Non-Compliance to the Assembly: Article 54 (j) 346  
8.3 Additional Actions 348  
8.3.1 ICAO 348  
8.3.2 IATA 350  
8.3.3 Europe 351  
8.4 Conclusion 351  

9 Concluding Remarks 353  
9.1 Setting the Aviation and Climate Change Discourse and the Research Problem 353  
9.2 The Interaction between International Aviation and the Climate Change Regime 354  
9.3 ICAO and Climate Change 355  
9.4 The EU ETS 357  
9.5 The Global MBM Scheme 359  
9.6 The Role Played by Some of the Main Actors 361  
9.7 The Road Ahead 361
Table of Contents

Bibliography 363