CONTENTS

Preface vi
Acknowledgements vii
Table of Cases xxiii
Table of Legislation xxv
Table of Treaties and Conventions xxxi
Abbreviations and Acronyms xxxiii
Contributors xxxv

I. ENVIRONMENTAL TAXATION AND THE URBAN ENVIRONMENT

1. Environmental Taxation and its Role in Singapore's Approach Towards Environmental Sustainable Development 3
Hern Kuan Liu and Sumathi SaadJanjua

   I. Introduction 1.01
   II. Singapore and the Environment 1.06
   III. Conclusion 1.63

2. Mega-Cities, Urbanization, and Public Transport: A Perspective on Developing Countries 21
Alberto Majocchi

   I. Introduction 2.01
   II. Poverty in a Globalized World 2.03
   III. Is the African Economy Growing at Last? 2.13
   IV. The Benefits (and Costs) of Urbanization 2.18
   V. Mega-Cities and the Current Urban Transition 2.35
   VI. The Impact of Urbanization on CO₂ Emissions 2.43
   VII. Congestion and Urban Transport 2.47
## Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIII.</td>
<td>New Perspectives for Urban Transport in Abidjan</td>
<td>2.51</td>
</tr>
<tr>
<td>IX.</td>
<td>Conclusions</td>
<td>2.59</td>
</tr>
<tr>
<td>3.</td>
<td>Using Environmental Taxation for Transport Demand Management</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>Stephen Potter</td>
<td></td>
</tr>
<tr>
<td>I.</td>
<td>Transport, Environmental Policy, and Taxation</td>
<td>3.01</td>
</tr>
<tr>
<td>II.</td>
<td>Purchase and Circulation Taxation Measures</td>
<td>3.07</td>
</tr>
<tr>
<td>III.</td>
<td>Tax on Car Use</td>
<td>3.18</td>
</tr>
<tr>
<td>IV.</td>
<td>Targeting TDM Tax Measures</td>
<td>3.30</td>
</tr>
<tr>
<td>V.</td>
<td>Towards a New Transport Taxation Regime?</td>
<td>3.37</td>
</tr>
<tr>
<td>VI.</td>
<td>Towards a New Transport Taxation Vision</td>
<td>3.42</td>
</tr>
<tr>
<td>4.</td>
<td>Environmental Taxes, Cumulative Pollution Loads, and Fiscal Balance</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>Dodo J Thampapillai and Xun Wu</td>
<td></td>
</tr>
<tr>
<td>I.</td>
<td>Introduction</td>
<td>4.01</td>
</tr>
<tr>
<td>II.</td>
<td>Fiscal Balance and Environmental Taxes</td>
<td>4.03</td>
</tr>
<tr>
<td>III.</td>
<td>Review of Activities that could be included in $\Delta G_E$</td>
<td>4.05</td>
</tr>
<tr>
<td>IV.</td>
<td>Concluding Notes</td>
<td>4.10</td>
</tr>
<tr>
<td></td>
<td>Challenges and Prospects for the Developing and Emerging Economies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of Asia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hope Ashiabor</td>
<td></td>
</tr>
<tr>
<td>I.</td>
<td>Introduction</td>
<td>5.01</td>
</tr>
<tr>
<td>II.</td>
<td>The State of Play of Countries in the Region</td>
<td>5.23</td>
</tr>
<tr>
<td>III.</td>
<td>The Impact of Subsidy Policies and the Responses of Governments in</td>
<td>5.54</td>
</tr>
<tr>
<td></td>
<td>the Region</td>
<td></td>
</tr>
<tr>
<td>IV.</td>
<td>Strategies: The Mitigation of the Regressive Impacts of Subsidy</td>
<td>5.80</td>
</tr>
<tr>
<td></td>
<td>Reform</td>
<td></td>
</tr>
<tr>
<td>V.</td>
<td>Conclusions</td>
<td>5.95</td>
</tr>
</tbody>
</table>
II. TAXATION IN TRANSPORTATION MANAGEMENT

6. Managing the Shift Towards Sustainable Transportation in the Southeast Asian Countries: Do Taxes and other Market-Based Instruments Play a Role?
 Hope Ashiabor and Rafli Rosiati

I. Introduction 6.01
II. Direct Regulations and Market-Based Instruments for the Southeast Asia Region 6.03
III. The Need for Sustainable Transportation in the Southeast Asia Region 6.06
IV. Concluding Observations 6.42

7. Traffic and Congestion Management in Italian Urban Areas: Is Pricing Manoeuvring?
 Giorgio Panella and Andrea Zatti

I. Introduction 7.01
II. Getting the Prices Right: The New Paradigm of Traffic Management Policies in Europe 7.07
III. Traffic and Congestion Management in Italian Urban Areas 7.16
IV. The Milan Ecopass Charge 7.27
V. Conclusions 7.45

 Ana Yábar, Pedro M Herrera, Pablo Chico, and Carlos Rosselló

I. Introduction 8.01
II. Environmental Framework 8.07
III. Constitutional and Legal Framework of Spanish Local Taxation 8.18
IV. Greening Circulation Taxes 8.21
9. Rising to the Occasion: How Transportation Green Taxes Could Yield Double Dividends for Montreal and the Province of Quebec

Jean-François Lefebvre, Georges A Tanguay, and Florence Junca-Adenot

I. Introduction

II. Related Research Question

III. Why Economists Recommend Transport Pricing Strategies

IV. Double Dividends

V. Why Transport Pricing is Seldom Used, or the Question of Social Acceptability

VI. Surmounting Obstacles

VII. Comparing Measures for the Montreal Case Study

VIII. Some Keys to Successful Implementation of an Urban Toll Road

IX. Measuring the Costs and Benefits

X. Conclusion

10. Transport Choice, Elasticity, and Distributional Effects of Fuel Taxes in Kenya

John M Mutua, Martin Börjesson, and Thomas Sterner

I. Introduction

II. Methodology

III. Empirical Analysis

IV. Conclusion and Policy Recommendations
11. Rebuilding Existing Environmentally Related Taxes and Transport Budget Structure in Japan
Fumiaki Toudou

I. The Focus of this Chapter

II. The Problem of Automobiles in Japan: A Perspective from Local Cities

III. Necessities to Change Existing Automobile-Related Tax System from a Distorted Feedback System

IV. Improvements Necessary to Make Automobile-Related Taxes 'Environmental'

V. Prospects of Environmental Fiscal Reform for Transport-Sector Problems

12. Environmental Taxation in the Management of Traffic in Singapore
Lin-Heng Lye

I. Introduction

II. Facts about Singapore

III. Measures to Control the Number of Motor Vehicles

IV. Measures to Discourage the Use of Motor Vehicles and Ensure a Cleaner Environment

V. Conclusion

III. ENVIRONMENTAL TAXATION AND THE CONSTRUCTION INDUSTRY

Patricia Blazey and Peter Gillies

I. Introduction

II. Housing in Australia: Some Background Facts

III. Sustainable Housing: Two Examples
## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV. Sustainable Housing: The Regulatory Response</td>
<td>13.15</td>
</tr>
<tr>
<td>V. Rebates Providing Incentives for Sustainable Housing</td>
<td>13.27</td>
</tr>
<tr>
<td>VI. Other Sustainable Housing Initiatives</td>
<td>13.41</td>
</tr>
<tr>
<td>VII. Feed-In Tariffs</td>
<td>13.43</td>
</tr>
<tr>
<td>VIII. Conclusion</td>
<td>13.48</td>
</tr>
<tr>
<td>14. The UK Construction Industry and Climate Change Initiatives</td>
<td>247</td>
</tr>
<tr>
<td>Ann Hansford, Sara Marsh, and Thérèse Woodward</td>
<td></td>
</tr>
<tr>
<td>I. Introduction</td>
<td>14.01</td>
</tr>
<tr>
<td>II. Climate Change Issues and Initiatives Affecting the UK Construction Industry</td>
<td>14.03</td>
</tr>
<tr>
<td>III. Environmental Taxes Affecting the UK Construction Industry and the Context</td>
<td>14.07</td>
</tr>
<tr>
<td>IV. The Research Study</td>
<td>14.18</td>
</tr>
<tr>
<td>V. Findings</td>
<td>14.21</td>
</tr>
<tr>
<td>VI. Conclusions and International Implications</td>
<td>14.36</td>
</tr>
</tbody>
</table>

### IV. ENVIRONMENTAL TAXATION AND FUELS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Petroleum Royalties and Municipal Development: The Case of Campos Basin in Brazil</td>
<td>263</td>
</tr>
<tr>
<td>Bruno Cesar Campos</td>
<td></td>
</tr>
<tr>
<td>I. Introduction</td>
<td>15.01</td>
</tr>
<tr>
<td>II. Royalties in Brazil: Legal Aspects</td>
<td>15.05</td>
</tr>
<tr>
<td>III. The Impact of Royalties on the Finances of the Campos Basin Municipalities</td>
<td>15.14</td>
</tr>
<tr>
<td>IV. Urban and Social Indicators of the Municipalities Benefited by Royalties</td>
<td>15.20</td>
</tr>
<tr>
<td>V. Final Conclusions</td>
<td>15.42</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>José Marcos Domingues</td>
<td></td>
</tr>
<tr>
<td>I. Introduction</td>
<td>16.01</td>
</tr>
</tbody>
</table>
Contents

II. Economic Instruments for Environmental Protection 16.15
III. Recent Controversial Discourses on the Respective Merits 16.28
IV. Environmentally Friendly Biofuel Subsidy Policy 16.37
V. Closing Remarks: The Whys and Wherefores of Non-fiscal Fuel Taxation 16.41

17. An Examination of the Environmental Impact of Key US Transportation-Related Tax Provisions 295
Bruce W McClain, Paul J Lee, and Rahmat Tavallali

I. Introduction 17.01
II. Background 17.05
III. Fuel Provisions 17.07
IV. Vehicle-Related Tax Provisions 17.18
V. Fringe Benefits 17.32
VI. Environmental Friendliness/Unfriendliness of Current Law 17.46
VII. Suggestions for Change 17.53

V. CARBON PRICING AND EMISSIONS TRADING

18. Australia's Proposed Emissions Trading Scheme: Aligning Tax Policy with the Goals of the CPRS 313
Celeste M Black

I. Introduction 18.01
II. Australia's Carbon Pollution Reduction Scheme 18.04
III. Income Tax Treatment of Permits 18.09
IV. Assistance to Industry: Free Permits 18.24
V. Other Income Tax Issues 18.32
VI. Goods and Services Tax 18.40
VII. Conclusions 18.52

19. Emissions Trading System from the Perspective of Enterprises 335
Zhiping Li

I. Background 19.01
## Contents

II. The Enterprises' Willingness to Participate in Emissions Trading System 19.10

III. Choice of Emissions Trading Mode by the Enterprises 19.12

IV. Misgivings about the Emissions Trading System 19.14

V. Establish an Enterprise-Friendly Emissions Trading System 19.21

VI. Conclusion 19.27

20. The Impacts of Carbon Pricing on Indigenous Communities: A Comparison of New Zealand and Australia 349

Karen Bubna-Litic

   I. Introduction 20.01
   II. Why the Need? 20.06
   III. The Issue of Disadvantage 20.10
   IV. Impacts of Pricing Carbon 20.40
   V. Does this Result in a Distributional Burden on Indigenous Communities? 20.48
   VI. Opportunities 20.65
   VII. Conclusion 20.68

21. Understanding the Evolution of Sulphur Dioxide Pollution Control Policy in China: The Role and Efficacy of Market-based Instruments in Chinese Environmental Protection 375

Chunyan Chai

   I. Introduction 21.01
   II. The Development of SO₂ Pollution Control Policies in China 21.03
   III. National Policy Programmes for SO₂ Pollution Control in China 21.17
   IV. Coordination Between National Energy and Environmental Programmes for the Purpose of SO₂ Emissions Reduction 21.31
   V. Conclusions and Policy Recommendations 21.39
Contents

VI. WATER, LAND, AND POLLUTION MANAGEMENT

Usman Mustafa, Mirajul Haq, and Ahmad Iftikhar

I. Introduction 22.01
II. Analysis of the Laws in the Drinking-Water Sector 22.06
III. Data and Methodology 22.11
IV. Theoretical Framework 22.15
V. Model for CVM 22.22
VI. Situation Analysis in Abbottabad 22.29
VII. Quantification of HHs' WTP 22.42
VIII. Empirical Results of CV Model 22.45
IX. Conclusion and Recommendation 22.48

Takehiro Usui

I. Introduction 23.01
II. The Relevant Literature 23.05
III. Econometric Method 23.09
IV. Estimation Result 23.13
V. Conclusion 23.16

24. The Efficacy of Environmental Taxation as a Mechanism for Pollution Control in Kampala City 423
Thadeus Mabasi

I. Introduction 24.01
II. Nature of Pollution in Kampala City 24.06
III. The Policy, Legal, and Institutional Framework for Pollution Control in Uganda 24.18
IV. The Efficacy of Environmental Taxation as a Mechanism for Pollution Control in Kampala City 24.32
Contents

II. Imposing a Carbon Tax on Imports 27.07
III. Rebating a Carbon Tax on Exports 27.24
IV. Exceptions for Violations of the WTO 27.32
V. Concluding Remarks 27.40

28. To Cap or To Tax? An Economic and Legal Argument in Favour of Carbon Taxes over a Cap on Trade to Combat Climate Change 493
   Abhinav Maker

   I. Introduction 28.01
   II. The Need for a Carbon Tax 28.06
   III. Carbon Tax: A Possible Solution 28.14
   IV. Border Tax Adjustment and WTO 28.17
   V. Justification of a Carbon Tax under Art XX(g) 28.31
   VI. Conclusion 28.57

29. The Use of Taxation Incentives to Create New Eco-Service Markets 511
   Paul Martin and Kip Werren

   I. Introduction 29.01
   II. Maximum Market Vibrancy, Minimum Complexity 29.08
   III. Taxation: The Impetus for Reform 29.30
   IV. Justification for Reform 29.52

VIII. CASE STUDIES

30. Exploring the ‘Real’ Obstacle to Implementing the ‘Polluter-Pays Principle’: Taking the Hong Kong Case as a Touchstone 531
   Li Gao

   I. Introduction 30.01
   II. Setting the Context 30.05
   III. Implementing the PPP in Hong Kong: Problems and Obstacles 30.10
IV. Exploring the ‘Real’ Obstacle 30.20
V. Clarification of the PPP: Focusing on Key Considerations 30.36
VI. Conclusion 30.42

31. Environmental Impact of Local Taxes and Fees in Germany 547
Monika Bohm
I. Introduction 31.01
II. Case Studies 31.03
III. Local Authority to Regulate 31.08
IV. Local Taxes and Fees in Practice 31.10
V. Restrictions 31.26
VI. Conclusions 31.27

32. The Environmental Fee-for-Tax Reform in China:
A One-Size-Fits-All Solution for Environmental Problems? 557
Tianbao Qin and Ping Chen
I. Background 32.04
II. PDF and the Environment Tax: A Theoretical Analysis 32.11
III. The Empirical Analysis on the Fee-for-Tax Reform 32.23
IV. Existing Practices in the Reformation of the PDF 32.32
V. Concluding Remarks 32.34

33. Greening Taxation System in China 569
Xi Wang and Yanfang Zhou
I. Introduction 33.01
II. Environment-Related Taxes in China 33.02
III. Evaluation of Environment-Related Taxes in China 33.18
IV. Reform of Environment-Related Tax in China 33.24

34. How the German Patient Followed the Doctor’s Orders:
Political Economy Lessons from Implementing Market-Based Instruments in Germany 587
Sven Rudolph
I. Introduction 34.01
Contents

II. Climate Policy Instrument Choice in Germany: The Case of EU ETS 34.05

III. Conclusions 34.39

35. The Impact of Fiscal Policies and Market-Based Instruments for Environmental Management: Experiences from Uganda 607
Ronald Kaggwa

I. Introduction 35.01
II. Key Findings: Winners and Losers 35.13
III. Key Issues and Challenges in Using Environmental Taxes and Other MBIs 35.27
IV. Recommendations 35.28

IX. THE ECONOMIC MELTDOWN AND CHALLENGES FOR THE FUTURE

36. Hedging against Wider Collapse: Lessons from the 'Meltdowns' 625
Nicholas A Robinson

I. Reassessing Economic Market Components: Precursor to Cap-and-Trade 36.14
II. Dysfunctional Elements in the Economic Recession 36.16
III. Identifying Foundations for Global Climate Emissions Trading 36.61
IV. The Eco-Era: A New Paradigm? 36.81

Index 665