

Modelling Sustainable Development

Contents

<i>List of Contributors</i>	vii
<i>Foreword: Challenges of Sustainability to Economics by Ger Klaassen</i>	ix
<i>Acknowledgements</i>	xii
<i>Introduction: Modelling Sustainability – The TranSust Project by Valentina Bosetti, Reyer Gerlagh and Stefan P. Schleicher</i>	xiii

PART I DEFINING SUSTAINABILITY

1. Economic Models for Sustainable Development <i>Richard S.J. Tol</i>	3
2. Designing Sustainability Policy <i>Barbara K. Buchner</i>	18
3. An American View of Sustainability <i>Ray Kopp</i>	34

PART II ISSUES IN MODELLING SUSTAINABILITY

4. Implementing the EU Sustainability Indicators <i>Christoph Böhringer and Andreas Löschel</i>	45
5. Interpreting Environmental Policy Cost Measures <i>Jean-Charles Hourcade and Frédéric Gherzi</i>	61
6. Technical Progress in TranSust Models <i>Valentina Bosetti and Marzio Galeotti</i>	83
7. Revenue Recycling and Labour Markets: Effects on Costs of Policies for Sustainability <i>Terry Barker, Sebastian De-Ramon and Hector Pollitt</i>	104
8. Carbon Dioxide Capture and Storage Supporting Sustainable Energy Systems <i>Bob van der Zwaan</i>	127

PART III MODEL DESCRIPTIONS

9. Market Allocation Model (MARKAL) at ECN <i>Koen Smekens, Gerard Martinus and Bob van der Zwaan</i>	147
--	-----

10.	A Hybrid Model: DEMETER <i>Reyer Gerlagh and Bob van der Zwaan</i>	157
11.	Impact Assessment of Climate Policies (IMACLIM-S) <i>Frédéric Gherzi</i>	168
12.	The Energy–Environment–Economy Model for Europe (E3ME) <i>Terry Barker, Sebastian De-Ramon and Hector Pollitt</i>	179
13.	An Endogenous Technical Change Model: FEEM-RICE <i>Valentina Bosetti, Carlo Carraro and Marzio Galeotti</i>	191
14.	Policy Analysis Based on Computable Equilibrium (PACE) <i>Christoph Böhringer, Andreas Löschel and Thomas F. Rutherford</i>	202
PART IV SYNTHESIS OF TRANSUST		
15.	Economic Impacts of GHG Emission Reductions: An Overview of Multiple Model Calculations <i>Reyer Gerlagh, Stefan P. Schleicher, Walter Hyll and Gregor Thenius</i>	221
16.	Transition to Sustainability: Some Preliminary Conclusions <i>Valentina Bosetti and Carlo Carraro</i>	246
	<i>Index</i>	253