Raimund Bleischwitz • Paul J.J. Welfens • ZhongXiang Zhang
Editors

International Economics of Resource Efficiency

Eco-Innovation Policies for a Green Economy



Physica-Verlag

A Springer Company

Contents

†

Part I Sustainability Economics

1	New Deal	. 3
2	Global Economic Sustainability Indicator: Analysis and Policy Options for the Copenhagen Process Paul J.J. Welfens, Jens K. Perret, and Deniz Erdem	19
3	System Innovation for Environmental Sustainability: Concepts, Policies and Political Economy Paul Ekins	51
4	The Resources of Economies and the Productivity of Materials: Relevance, Measurement, Empirical Trends, Innovation, Resource Policies	89
5	The Economics of Current Metal Markets	111
Par	rt II International Analysis	
6	Competences for Green Development and Leapfrogging: The Case of Newly Industrializing Countries	127

xvi Contents

7	The US Proposed Carbon Tariffs, WTO Scrutiny and China's Responses ZhongXiang Zhang	151
8	Plan C: China's Development Under the Scarcity of Natural Capital	175
9	The Dutch Energy Transition Approach	187
10	Material and Energy Consumption in Lithuania: Towards Sustainability Renata Dagiliūtė	215
Part	t III Rebound Effects in Economies	
11	Price and Income Induced Rebound Effects of Improved Energy Efficiency in Swedish Households: With Comments on Materials Efficiency Jonas Nässén and John Holmberg	235
12	Analyzing Rebound Effects	253
13	How to Reduce the Rebound Effect?	279
Part	IV Modelling the Use of Resources in Economies: Different Approaches	
14	Multi-agent Modeling of Economic Innovation Dynamics and Its Implications for Analyzing Emission Impacts Frank Beckenbach and Ramón Briegel	289
15	How to Increase Global Resource Productivity? Findings from Modelling in the PetrE Project	317

Par	t v Outlook on Sustainable Resource Management	
16	Identification of Technologies, Products and Strategies with High Resource Efficiency Potential: Results of a Cooperative Selection Process Holger Rohn, Michael Lettenmeier, and Nico Pastewski	335
17	Optimizing Resource Efficiency and Carbon Intensity in the Wood Processing Sector in Austria	349
18	Sustainable Resource Management in the Production Chain of Precious and Special Metals Christian Hagelüken	357
19	Eco-Innovation for Enabling Resource Efficiency and Green Growth: Development of an Analytical Framework and Preliminary Analysis of Industry and Policy Practices	371