## **Contents**

1	Introduction	1
ı	Economics: What Is It About and How Does It Relate to the Natural Environment?	
2	The Fundamental Problem	11
2.1	Needs	12
2.2	Goods	
2.2.1	Satisfying Human Needs	
2.2.2	Commodities and Services	
2.2.3	Excludability and Rivalry	15
2.3	Production	16
2.4	Scarcity	17
3	The Economic Approach	21
3.1	Acting Economically	22
3.2	Economic Agents	24
3.3	The Circular Flow	25
3.4	Positive and Normative Economic Analysis	27
3.5	Economic Policy	30
3.5.1	The Choice of Economic System	
3.5.2	Interventions in the Economic Process	33
4	Integration of the Natural Environment:	
	Socially Undesirable Utilisation of Natural Goods	37
4.1	Natural Goods	38
4.2	Production Based on Natural Resources	39
4.3	The Circular Flow and the Natural Environment	40
4.4	Normative Analysis: Efficiency, Justice, and the Natural Environment	40
4.5	Economic Policy and Environmental Protection	42
5	Summary to Part I and Looking Ahead	45
11	Microeconomics and the Natural Environment	
6	Fundamental Concepts of Microeconomics	49
6.1	Objectives and Methods of Microeconomics	
6.2	The Consumer	60
6.3	The Firm	68



The Market	77
Basic Issues in Welfare Economics	83
The Concept of Social Optimality	
The Social Optimality of an Ideal Market Economy	87
Market Failure	95
Extensions of and Alternatives to the Basic	
Microeconomic Textbook Model	100
A Sketch of Environmental Microeconomics	105
Internalizing Externalities	106
Standard-Oriented Environmental Policy	
· · · · · · · · · · · · · · · · · · ·	
Cost-Effective Inter-Firm Allocation of Aggregate Pollution Abatement	
Cost-Effective Design of Environmental Policy Instruments	116
Induced Technical Progress in Environmental Policy:	
The Basic Economic Concept	122
Environmental Technical Progress and Its Stylization in Environmental	
Economics Models	122
Efficiency: A Dynamic View	123
Dynamic Environmental Policy in an (Almost) Perfect World	126
Dynamic Environmental Policy in an Imperfect World	131
International Environmental Problems	
Summary to Part II and Looking Ahead	139
Macroeconomics and the Natural Environment	
Fundamental Concepts of Macroeconomics	145
· ·	
Economic Growth in Figures	152
Growth Theory: The Solow Model	159
Growth in a Decentralised Economy: The Ramsey Model	179
Socially Optimal Growth	
Extension: Technological Change	200
National Accounting	210
Purposes of National Accounting	210
Measuring National Product	211
Measuring National Wealth	212
	2 1 2
A Sketch of Environmental Macroeconomics	
A Sketch of Environmental Macroeconomics	217
	The Social Optimality of an Ideal Market Economy Market Failure Extensions of and Alternatives to the Basic Microeconomic Textbook Model  A Sketch of Environmental Microeconomics Internalizing Externalities Standard-Oriented Environmental Policy Introduction Cost-Effective Inter-Firm Allocation of Aggregate Pollution Abatement Cost-Effective Design of Environmental Policy Instruments. Induced Technical Progress in Environmental Policy: The Basic Economic Concept Environmental Technical Progress and Its Stylization in Environmental Economics Models Efficiency: A Dynamic View. Dynamic Environmental Policy in an (Almost) Perfect World. Dynamic Environmental Policy in an Imperfect World International Environmental Problems.  Summary to Part II and Looking Ahead  Macroeconomics and the Natural Environment Fundamental Concepts of Macroeconomics Cobjectives and Methods of Macroeconomics Economic Growth Definitions of Economic Growth Economic Growth in Figures Growth Theory: The Solow Model Growth in a Decentralised Economy: The Ramsey Model Socially Optimal Growth Extension: Technological Change National Accounting Purposes of National Accounting Measuring National Product

## Contents

10.1.2	Sustainable Development	. 237
10.1.3	Extension: Technological Change in the Resource-Based Economy	. 243
10.2	National Accounting and the Natural Environment	. 248
10.2.1	Environmental-Economic Accounting	. 248
10.2.2	Accounting for Sustainability	. 250
11	Summary to Part III	267
	Supplementary Information	
	Solutions to Exercises	272
	Glossary	
	Index	285