

CONTENTS

Part I A Definition of Sustainability

- | | | |
|---|--|----|
| 1 | Competing Ideals and an Emerging Consensus | 3 |
| 2 | Population Dynamics and Systems—A Limits to Growth | 13 |
| 3 | An Operational Definition of Sustainability | 31 |
| 4 | The Planet's Balance Sheet and Nature's Bank | 43 |

Part II The Science of Sustainability

- | | | |
|----|--|-----|
| 5 | Cosmology, Entropy, and Sustainability | 55 |
| 6 | Biology and Ecosystem Science | 69 |
| 7 | Sustainable Energy from the Sun and Earth's Core | 77 |
| 8 | Nuclear Power | 93 |
| 9 | Energy Storage and Efficiency | 101 |
| 10 | The Natural History of Fossil Fuels | 115 |

Part III The Economics of Sustainability

- | | | |
|----|---|-----|
| 11 | A Brief History of Time in Economic Decision-Making | 127 |
| 12 | Discounting and Extraction of Depletable Resources | 145 |
| 13 | Discounting and Renewable Resource Extraction | 171 |
| 14 | The Tragedy of the Commons and the Coase Theorem | 179 |
| 15 | Permanent Funds and the Hartwick Rule | 189 |
| 16 | Environmental Externalities | 201 |

Part IV Sustainability and Public Policy	
17 The Philosophy of the Social Discount Rate	215
18 Application of Public Policy to Attain Sustainability	235
19 An Intergenerational Stock Externality—Global Warming	253
Part V Attainment of ESG Goals—A Public and Private Partnership	
20 Responses to Sustainability and Climate Change	301
21 The Public Sector and ESG—Environmental Policy	309
22 The Public Sector and ESG: Social and Governance Pillars	325
23 Private Sector ESG Responsibilities and the Environment Pillar	337
24 The Private Sector and ESG: Social and Governance Pillars	353
25 Sustainability Scenarios and Private Sector ESG Opportunities	365
26 Private Sector Sustainability and Climate Change Risk Management	385
27 An Extension of Classical Economic Analysis to the Normative Realm	421
28 A Critique of Sustainability Theories and Paths Forward	433
Glossary	445
Index	469