

Contents

<i>Preface</i>	ix
CHAPTER ONE	
Introduction	1
CHAPTER TWO	
Definitions and Concepts	17
PART I	
Pre-Industrial Economies	
<i>Paolo Malanima</i>	35
CHAPTER THREE	
Traditional Sources	37
1. Energy in Premodern Societies	
2. Organic Sources and Agricultures	
3. Non-organic Sources	
4. Seven Long-run Propositions	
5. Conclusion	
CHAPTER FOUR	
Constraints and Dynamics	81
1. Population and Climate	
2. Energy Scarcity	
3. Saving Land	
4. Saving Labor	
5. Conclusion	
PART II	
The First Industrial Revolution	
<i>Paul Warde</i>	129
CHAPTER FIVE	
A Modern Energy Regime	131
1. The Take-off of Coal	
2. Traditional Sources: Rise but Relative Decline	
3. Conclusion	

CHAPTER SIX	
The Coal Development Block	159
1. The Core Innovations	
2. The Growth Dynamics of the Coal Development Block	
3. The Transport Revolution	
CHAPTER SEVEN	
Energy and Industrial Growth	209
1. Coal and Growth	
2. Seven Long-run Propositions	
3. Energy Intensity and Economic Structure	
4. Conclusion	
PART III	
The Second and Third Industrial Revolutions	
<i>Astrid Kander</i>	249
CHAPTER EIGHT	
Energy Transitions in the Twentieth Century	251
1. The Rise of Oil and Electricity	
2. Old and New in Energy Regimes	
3. Conclusion	
CHAPTER NINE	
Major Development Blocks in the Twentieth Century and Their Impacts on Energy	287
1. The ICE-Oil Block	
2. The Electricity Block	
3. The ICT Development Block	
4. Conclusion	
CHAPTER TEN	
The Role of Energy in Twentieth-Century Economic Growth	333
1. Development Blocks and GDP	
2. Seven Long-run Propositions	
3. Energy Intensity and Economic Structure	
4. Conclusion	
CHAPTER ELEVEN	
Summary and Implications for the Future	366
1. Summing Up the Book	
2. Thinking about the Future	
3. Some Remarks about the Future	

APPENDIXES

A. The Role of Energy in Growth Accounting	387
B. Decomposing Energy Intensity 1870–1970	395
C. The Impact from the Service Transition on Energy Intensity	402
D. Biased Technical Development	411
<i>References</i>	415
<i>Index</i>	451