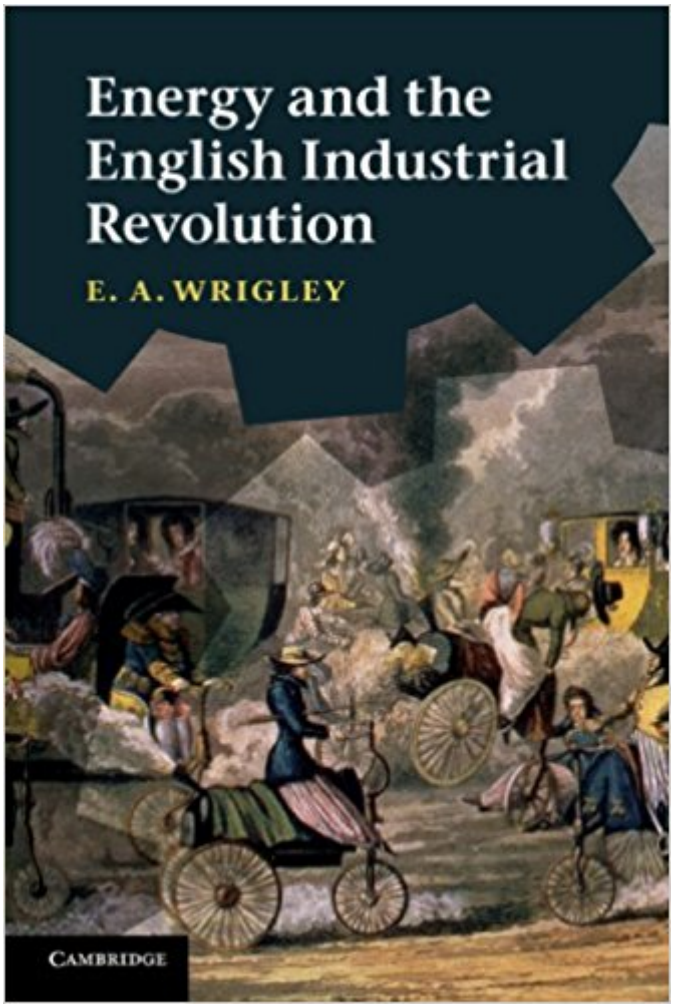
Energy And The English Industrial Revolution



Synopsis

The industrial revolution transformed the productive power of societies. It did so by vastly increasing the individual productivity, thus delivering whole populations from poverty. In this new account by one of the world’s acknowledged authorities the central issue is not simply how the revolution began but still more why it did not quickly end. The answer lay in the use of a new source of energy. Pre-industrial societies had access only to very limited energy supplies. As long as mechanical energy came principally from human or animal muscle and heat energy from wood, the maximum attainable level of productivity was bound to be low. Exploitation of a new source of energy in the form of coal provided an escape route from the constraints of an organic economy but also brought novel dangers. Since this happened first in England, its experience has a special fascination, though other countries rapidly followed suit.

Book Information

Paperback: 288 pages

Publisher: Cambridge University Press (September 27, 2010)

Language: English

ISBN-10: 0521131855

ISBN-13: 978-0521131858

Product Dimensions: 6 x 0.6 x 9 inches

Shipping Weight: 14.9 ounces (View shipping rates and policies)

Average Customer Review: 4.7 out of 5 stars 5 customer reviews

Best Sellers Rank: #492,696 in Books (See Top 100 in Books) #9 inÂ Books > Engineering & Transportation > Engineering > Energy Production & Extraction > Fossil Fuels > Coal #1404 inÂ Books > Business & Money > Biography & History > Economic History #2582 inÂ Books > Science & Math > Nature & Ecology > Conservation

Customer Reviews

"This book has changed the way I see the world. Smart, engaging and beautifully-written, Wrigley’s study of the Industrial Revolution casts a fascinating light on current energy questions. If you want to understand how our dependency on fossil fuels began and what we might do to escape it, you must read this book." -George Monbiot"Here, Tony Wrigley develops the central themes that have characterized his distinctive contribution to the economic transformation of England. There is no better account of the role that the energy revolution played in the escape from the constraints of the Malthusian pre-industrial economy". -Nicholas Crafts, University of Warwick."Tony Wrigley is one of

the true Grand Men of the economic history profession. In this book he analyzes in depth the role of energy supplies in the emergence of modern economic growth and thus strikes a fascinating and most timely link between economic history and contemporary issues of energy and environment. Energy economics are of central importance to any study of economic change, especially when supported by the breadth of the learning underlying this book." -Joel Mokyr, Northwestern University"Whether wind or solar power can ever provide the energy needed in an increasingly energy-conscious and insecure world is debatable but this excellent book provides a historical perspective that is either ignored or given little credence in contemporary debates of considerable subtlety and relevance.Â This is a book not to be ignored." -The Historical Association"an accessible and comprehensive guide to his interpretation of the industrial revolution. It offers at once a clear and compelling argument for the centrality of energy in the historical rise of industrial societies and an opportunity to meditate on the future sustainability of an economic order founded on fossil fuels." -Jan de Vries, Economic History Review"an often brilliant and always perceptive presentation of some of the key conclusions from every decade of his half-century of academic research to date." - Michael Anderson, Population Studies

By accessing new sources of energy, the productivity of the average worker was increased and industry transformed. Anthony Wrigley explains how economic growth in England accelerated, providing a unique insight into understanding the industrial revolution. This book makes essential reading for students and scholars of British economic history.

Connects well to content and information about the rise of the industrial revolution (or perhaps the idea of an evolution taking place over time) with that of theorist Adam Smith and his observations in Wealth of Nations. Highly recommended for anyone with interests in technological determinism and the history of energy more broadly.

This is an incredibly eloquent and well organized view of the demographic changes wrought by the Industrial Revolution in the United Kingdom. In many ways it is the "missing link" that economists - who hand-wave shamelessly about the demographic transition - need to read. As do environmental and climate scientists who are concerned about energy and climate change.A masterly piece of scholarship that needs to be read by a broader scientific audience.

Mr. Wrigley has written a very impressive book on the English industrial revolution. Actually this

book is a trailblazer for economic history and the importance of energy and energy development in economic growth. Mr. Wrigley begins with the concept of an organic economy. In the organic economy land is the source of all food, natural resources, and energy. Quoting Mr. Wrigley "All industrial production depended vegetable or animal raw materials. This is self-evidently true of industries such as woollen textile production or shoemaking but is also true of iron smelting or pottery manufacturing, although their raw materials were mineral, since production was possible by making use of a source of heat and this came from burning wood or charcoal. Thus the production horizon for all organic economies was set by the annual cycle of plant growth." The amount of energy absorbed by plants from the sun from photosynthesis set the ceiling for productive capacity. Thus economic production was limited. Most people lived in squalor and poverty without luxuries or much medical care. When populations grew living standards fell due to the production constraint. Then malnutrition and disease reduced population to a supportable level.The English industrial revolution, by developing the coal industry, and obtaining greater and greater quantities of energy from coal broke free from the constraint of plant growth and escaped the organic economy. From greater quantities of energy it was possible to build better transportation, develop new industries, and provide better lives for the populace. Low cost and available coal energy made possible the steam engine, the railroad, and many other labor saving innovations. These inventions made more goods available to the population and further improved the lives of the population.Interestingly, the escape from the organic economy remained unseen by the Classical economists. Classical economists Adam Smith, David Ricardo, Thomas Malthus all accepted as the given the constraints of the organic economy. Thus the limits set by the supply of land figured in the economic models of all these economists. It was only later that economists did not accept land as a severely limiting constraint on production. It is to the credit of Mr. Wrigley that he describes the Classical economist’s theories with respect to land and energy in some detail.Mr. Wrigley goes into great detail on the English population statistics and demonstrates how the rising quantities of energy coincided with the growth of the new industrial cities and the capital London. He demonstrates that increasing non-plant based energy supplies were a necessary condition for industrial growth and rising living standards. He details the revolutions in the transport and consumer goods industries.In essence Mr. Wrigley has done excellent service in debunking the eco freak argument that hydrocarbon and nuclear energy are bad and the world can rely solely of renewable energy. The solar and wind based renewable energy are very much dependent on the solar output and solar induced air wind streams. Thus hydrocarbon fuels and nuclear fuels such as uranium and thorium are the only real sources of human development and prosperity.I took off one star from this book, however, for two

reasons. One reason is that Mr. Wrigley complacently accepts the anthropogenic global warming hoax involving carbon based fuels. This false theory is propounded by politicized global elitists and has been refuted by genuine scientific data.The second reason is that Mr. Wrigley ignorantly assumes that hydrocarbon fuels come solely from degenerated plant and animal life. This theory has been rigorously refuted by Thomas Gold in this bookÂ The Deep Hot Biosphere : The Myth of Fossil Fuels. Notice that other planets such Saturn"s moon Titan have extensive hydrocarbon fuel surface deposits without a history of plant and animal life.

Apparently written to bring his work and thought before a broad public, this book is a concise and interesting summary of a large body of work and thought from this distinguished economic and demographic historian. The use of coal in industrializing Britain is core of this book. The importance of coal use in the Industrial Revolution is known well and has been commented upon by virtually every historian or economist who has dealt with this topic. Wrigley has a novel and interesting view of this crucial phenomenon. Wrigley contrasts the limited growth potential of an "organic" economy where productivity will be eventually constrained by negative feedbacks due to the limited resource of wood as an energy source with an "inorganic" economy where this energy bottleneck is absent.In contrast to many other scholars who have focused on how the Industrial Revolution started, Wrigley examines why it didn’t sputter out. Wrigley covers a number of interesting aspects of this concept. He points out the significant growth potential of pre-industrial, "Smithian", capitalist growth and discusses interesting ways in which this occurred in England. There are nice dicussions of improvements in agricultural productivity, urbanization, the velocity and volume of trade, and rising consumer demand. All of these interacted in interesting ways to enhance economic growth. But, negative feedbacks due to limited land and limited wood production would eventually have curtailed many of the processes. The employment of coal, both for domestic heating and industrial production, prevented these negative feedbacks from operating. His counter-example is the 17th century Netherlands, where considerable economic modernization occurred but ultimately stagnated.Simultaneously, coal use stimulated some positive feedbacks of its own. Increasing use of and demand for coal, for example, stimulated improvements in transportation and provided considerable impetus for the development of the great technological innnovation of steam power.This short book contains quite a bit of interesting analysis. There is good discussion of the relatively long prelude to the Industrial Revolution, English demography, the pessimism of classic economists like Smith and Ricardo, and quite a few other topics.

When people use the term "magisterial", this is the kind of book they mean. It is an education in how to use data and statistical analysis to evaluate a variety of simultaneously shifting social dynamics. But what makes this book important is not the rethinking of the Industrial Revolution it provokes, but the profound question it forces on the reader about whether it is possible for a society like ours to live "organically" again in the aftermath of the fossil fuel explosion this book narrates. I came away from reading this book more pessimistic about our prospects than from 50 books I have read on climate change, etc.

Evaluation of Industrial Disability: Prepared by the Committee of the California Medical Association and Industrial Accident Commission of the State ... of Joint Measures in Industrial Injury Cases. Energy and the English Industrial Revolution Reiki: The Healing Energy of Reiki - Beginnerâ ™s Guide for Reiki Energy and Spiritual Healing: Reiki: Easy and Simple Energy Healing Techniques Using the ... Energy Healing for Beginners Book 1) Energy and Electricity in Industrial Nations: The Sociology and Technology of Energy The Third Industrial Revolution: How Lateral Power Is Transforming Energy, the Economy, and the World LEARN ENGLISH; HOW TO SPEAK ENGLISH FOR ESL LEARNERS: ENGLISH SPEAKING SKILLS FOR ENGLISH AS A SECOND LANGUAGE LEARNERS (LEARN ENGLISH FOR LIFE Book 14) Patty’s Industrial Hygiene and Toxicology, Volume 3, Part B, Third Edition, Theory and Rationle of Industrial Hygiene Industrial Fluid Power, Vol. 1: Basic Text on Hydraulics, Air & Vacuum for Industrial and Mobile Applications The Industrial Design Reference & Specification Book: Everything Industrial Designers Need to Know Every Day Fundamentals of Industrial Hygiene 6th Edition (Fundamentals of Industrial Hygene) Energy Harvesting: Solar, Wind, and Ocean Energy Conversion Systems (Energy, Power Electronics, and Machines) Renewable Energy Made Easy: Free Energy from Solar, Wind, Hydropower, and Other Alternative Energy Sources Crystals: The Ultimate Guide To: Energy Fields, Auras, Chakras and Emotional Healing (Aura, Healing Stones, Crystal Energy, Crystal Healing, Energy Fields, Emotional Healing, Gemstone) Coal and Empire: The Birth of Energy Security in Industrial America Political Order and Political Decay: From the Industrial Revolution to the Globalization of Democracy Smokestacks and Spinning Jennys: Industrial Revolution (American History Through Primary Sources) The Fourth Industrial Revolution The Path to Sustained Growth: England’s Transition from an Organic Economy to an Industrial Revolution Natural Capitalism: Creating the Next Industrial Revolution Return of the Primitive: The Anti-Industrial Revolution