

The specific goals of the editors are to explain how energy use has changed as society has evolved and to assess the ecological consequences of trends in energy supply and use. The editors define energy use in much broader terms than the conventional number of kilowatt hours used or the amount of wood, coal, or oil burned. Rather, they follow societal changes from early hunter-gatherers through modern industrial times, as well as speculate on future trends.

This book is a revision of an earlier (1979) edition. Besides updating the relevant scientific information, the editors have added text that clarifies the interdependencies among food, land, water, and energy—a welcome addition because these interdependencies make the study of energy use challenging from both the scientific and policy perspectives.

The editors are well qualified to produce a book about energy policy. In fact, they wrote most of the 21 chapters and were coauthors on the few that were written by others. Much of the material has been refined in earlier publications over the years, and these earlier publications are reflected by the high editorial quality of the book.

This book covers the evolution of human use of energy and agricultural crops; livestock production; fisheries and aquaculture; grain, fruit, and vegetable production; irrigation; biological diversity; food processing, packaging, and preparation; transportation; fuels; environmental effects of energy production; and public policy. The editors summarize a vast literature, but the book is relatively short, considering the range of material that it covers.

The main message of *Food, Energy, and Society* is the often counterintuitive complexity and interdependence among public policy, individual decisions, and energy use. The consequences of these interdependencies, especially on ecological resources, are rarely clear, the time lags are often long, and competing individual and societal values are not often easily reconciled. These interdependencies are important messages. For example, looking at current vegetable farming or fishing from an energy perspective, as the editors do, may well change the reader's

ENERGY POLICY AND ECOLOGICAL SUSTAINABILITY

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Two important but controversial public policy questions are: how to sustain ecological resources and what, if anything, to do about the number of humans inhabiting the planet. These policy questions are the focus of *Food, Energy, and Society*. Answering both questions involves complex science and a mix of clashing fundamental individual values and preferences.

perception of these activities as benign, pastoral vocations.

A particular strength of the book is its comprehensive, yet brief discussion of a diverse scientific literature. The wealth of information packed into this book sometimes causes it to take on the characteristics of an almanac. It is an excellent introduction to the subject, with many references for further reading on subjects of particular interest.

A weakness—or, depending on one's perspective, a possible strength—of the book is that the editors clearly advocate certain policy positions. For example, they assert that "Strategies for increasing food production substantially over present levels and decreasing population growth must be developed now" (p. 40) and that "parents must understand that having fewer children is in their own and their children's interest." In my opinion, such strongly held political positions tend to detract from the policy-neutral tone of most of the book.

Another weakness, at least from a public policy perspective, is the emphasis on the technological and scientific aspects of sustainability. The editors come from scientific backgrounds, so their emphasis on science and technology is understandable. However, I would have preferred to see a somewhat greater emphasis on human values and preferences and their roles in influencing policy questions and decisions. For example, the conflicts between perceived individual rights and their collective consequences is at the heart of many energy policy debates. Concepts of rights change over time, but the competition between different, evolving concepts is critical to understanding issues of food and energy. However, these minor weaknesses are far outweighed by the book's many strong points.

A particularly appealing characteristic of the book is the way in which it sets energy and policy issues in a historic context, starting with hunter-gatherers and proceeding through modern times. For example, historical context is used effectively to explain how we arrived at our current situation relative to industrial agriculture and forestry.

This book is rigorous, thorough, and well written. Each chapter is

focused and relatively short. The writing is clear and direct. The entire book is well referenced. Tables are used extensively, and although figures are less numerous, they are also used effectively throughout the book.

This excellent volume would make a useful introductory text or reference for anyone who deals with energy issues from either a scientific or policy perspective. It effectively summarizes the interactions between human decisions and policies and the ecological consequences, especially for food and energy production.

ROBERT T. LACKEY

*Western Ecology Division
National Health and Environmental
Effects Research Laboratory
US Environmental Protection Agency
Corvallis, OR 97333*

