

## Book Reviews

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Alieto A. Guadagni, *Energia Para El Crecimiento (Energy for Growth)* (Buenos Aires, Argentina: El Cronista Commercial, 1985), 394 pages.

*Energia Para El Crecimiento*, written in Spanish, is a comprehensive look at the role of energy in economic development and its effects on the Argentine economy. The book is divided into two distinct parts; the world scenario and the use of energy in development. The author uses economic analysis and a wealth of historical data to analyze current policy decisions of the Argentine government and their potential effects on economic growth. This book will be very useful for economists and policymakers interested in energy's effect on developing economies and in how Argentina has approached the issue.

Doctor Alieto A. Guadagni is an economist with the Centro de Investigaciones Economias del Instituto Torcuato Di Tella and professor at the Catholic University of Argentina and the Institute for Economic and Social Development. He has also been director of various units in the Argentine government and associated with the World Bank and M.I.T. Energy Laboratory. He uses his wide range of contacts to provide the reader with a detailed analysis of the Argentine and world energy situation.

The strength of the book is its comprehensive use of economic theory and statistics to describe the effect of energy on Argentina. Unlike many authors who deal with developing countries, Guadagni tries to avoid making political statements addressing past political decisions strictly in economic terms and allowing theory to show the correct route.

The first part integrates a comprehensive data base that includes prices, demand, reserves, and so forth from the developed countries, a few developing countries, and OPEC into a comprehensive theoretical presentation of energy's effects on a developing economy. This part alone could serve as a text book on energy economics.

The main fault of this section is its over-reliance on Malenbaum's intensity-of-use theory of development. While some economists believe there is a correlation between the per capita use of energy and an economy's development, no two countries have the same development pattern. Therefore different intensity-of-use curves exist for each country, depending on when they begin developing. Another fault is the lack of discussion on the concept of user costs, which would be helpful in explaining portions of the book including the pricing behavior of OPEC and Argentina's past energy agreements.

The second part of the book analyzes Argentina's energy resources and policy decisions. Most economists would be interested in the detailed breakdown of the formulation of final prices in Argentina. After presenting Argentina's resource base, the author analyzes how rent, taxes, regulations, and international trade affect the buying behavior of consumers and the further development of domestic resources.

The analysis is used to show how past governmental policy decisions have tended to curtail development. Of particular concern are Argentina's natural gas and electric generation industries. Argentina's agreement with Bolivia for the delivery of natural

gas for the next few years is shown to have been a mistake. Comparing it with the take-or-pay contracts between the United States and Canada or Mexico, the gas is over-priced and has slowed natural gas and electrical generation development.

The weak point of this part of the book is the author's treatment of the electric industry. He tries to present a comprehensive analysis of the industry, including current cost trends. Unfortunately he does not include capital and production cost estimates. The author would have been better off had he limited his analysis to the effect of primary energy prices on the industry and written a second book incorporating the information on the entire electric industry.

With the current state of the international oil industry, the book is timely and should be read by those interested in energy problems in developing economies.

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Walter J. Mead, Asbjorn Moisdjord, Dennis D. Muraoka, and Philip E. Sorensen, *Offshore Lands Oil and Gas Leasing and Conservation on the Outer Continental Shelf* (San Francisco: Pacific Institute for Public Policy Research, 1985), 169 pages.

At long last, the general reader and teachers looking for good case studies have access to an epitome of the important work Walter Mead has directed on the great success of the federal government in securing high payments for oil and gas leases on the outer continental shelf, a term preferable to the oxymoron, "offshore land." As a bonus, a clear discussion of the defects of leasing policy is provided.

In work dating back to 1969, Mead and his associates have conducted a series of studies on the returns to the federal government on offshore oil and gas leasing. The results have consistently shown that the effect has been to limit the aftertax net discounted cash flow rate of return on private exploitation of offshore oil and gas to levels that are not abnormally high. This monograph uses these studies as the core of an analysis of offshore leasing.

The review begins with a sketch of the history of leasing. The usual layman's guide to welfare economics essential to books of this sort follows and is well done. Then come the three core chapters. The first lucidly presents the findings of the research on the profitability of leasing. The second devastatingly discloses the defects of various alternative charge systems such as royalty bidding, profit sharing, and work commitment. The third deals with other issues, with dominant attention given to the folly of requirements to speed private exploitation of the oil. Other issues are sealed versus oral bids, the optimum tract size, bid rejection procedures, and state and environmentalist objections to leasing. The point of most interest is that tract size limits.

Stephen L. McDonald provides an excellent lucid introduction. It is flawed, however, by a discussion that perpetuates the dubious proposition, not shared by

Mead and his associates, that limits on leasing levels are desirable. Such arguments are valid only if market imperfections prevail and can be reduced substantially by limited leasing. Delayed leasing always involves the cost of failure to lease when development is optimal. One possible benefit is that delay may improve the Interior Department's ability to counteract monopsony bidding power. Monopsony probably is unimportant, however. The Interior Department is unlikely to use delay effectively.

Similarly, it is questionable whether capital market imperfections can effectively be factored into the leasing process. No workable leasing program can hope to delay a lease precisely long enough to prevent socially premature development. Mead et al. go beyond rejecting the premise of private shortsightedness to the libertarian view that it is governments that are myopic.

My disagreement with Mead et al. concerns more subjective matters. They chose to rescue the concept of conservation by making it synonymous with economic efficiency. Conservation is an imprecise term often used to describe erroneous concepts. Therefore, the preferable course is to insist it be replaced by the preferable term economic efficiency.

More critically, Mead et al. may not have gone far enough in their policy conclusions. My involvements in policy reviews on onshore oil and gas and coal leasing suggest that even in situations in which the evidence for competition is not conclusive, systems similar to those proposed by Mead are preferable. Imposition of royalties, holding limits, diligent development requirements, and an elaborate bid appraisal system on coal leasing produced nothing but a silly political controversy that ended leasing for at least four years. Given the often trivial amounts involved, onshore oil and gas should be subject to an even simpler system. The Interior Department should be free to lease for as little as \$1 in toto when no competition is evident. We are delaying resource use for what are probably reductions in the net payoff of leasing due to excessive limits on offers, overly stringent rejection criteria, and too elaborate appraisal methods. Instead, avoiding the appearance of scandal has become the dominant goal.

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Robert W. Poole, Jr., ed., *Unnatural Monopolies: The Case for Deregulating Public Utilities* (Lexington, Mass.: Lexington Books, D. C. Heath and Company, 1985), 224 pages.

In this book, seven essays treat various aspects of the case against any application of the public utility concept to justify government regulation. The first four essays deal with conceptual issues (albeit in two cases stressing examples from a specific industry to illustrate the points). The last three treat specifically the areas of electric utilities, cable television, and telephone service.

Thomas Hazlett prepared two of the four more general essays. The first unearthed now-forgotten rationales for natural monopoly regulation and presents their defects. The second proposes greater use of long-term contracts between (groups of) customers and suppliers of services as a means to increase competition. Cable television is used as the example. In between, Cornell and Webbink present a terse recitation of the case against regulation, and Mellor and Allen review the conflicts between regulation and antitrust considerations in regulated industries. The electric utility article by Primeaux reiterates his view that competition in electricity generation is more feasible and desirable than usually recognized. The cable and telephone essays discuss the available technical alternatives and the ability to attain the most efficient outcome under regulation.

Hazlett's essays are particularly useful. The first demonstrates the drawbacks of late-nineteenth-century arguments for regulation. His main shortcoming is that he fails to convince the reader that his example was critical or even representative and elliptic references of the Baumol, Willig, Panzar concept of contestability. (Curiously, Hazlett's own references relate to an epitome of the work by Sharkey; the original material is cited by Cornell and Webbink.) His essay on the contract solution to dealing with a utility provides useful illustrations of how the process was worked. Cornell and Webbink and Mellor and Allen present good summaries of the conclusions of the antiregulation case but are too terse to provide adequate justification. The Primeaux work is a solid review but familiar to readers of his past (and subsequent) work.

The obsolescence of the material illustrates a classic peril in publication. Publishers may give rapid turnaround, but authors, particularly of anthologies, often are laggard. Much work that has since been formally published is cited in its working paper form. Neither the antiregulation anthology of Plummer, Hughes, and Ferrar nor the go-slow proposals of Joskow and Schmalensee are dealt with.

On balance, the book provides useful additional insights to specialists on the subject. However, the defects noted make it unsuitable as either an introduction to the subject or as the guide to policymakers the editor seems to have sought. It certainly does not live up to its cover blurbs, in which well-known economists describe it as "must reading" and an "exciting addition."

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John C. Sawhill and Richard Cotton, eds., *Energy Conservation, Successes, and Failures* (Washington: Brookings Institution, 1986), 270 pages.

Pietro S. Nivola, *The Politics of Energy Conservation* (Washington: Brookings Institution, 1986), 294 pages.

The subtitle of the Sawhill and Cotton book is a good description of its nature. The chapters fall into two disparate parts. Three deal with substantive economic issues;

four with conservation programs by (1) electric utilities; (2) local governments; (3) state governments; and (4) the federal government. First, William W. Hogan summarizes his analysis of energy consumption behavior by showing that these changes are no more than the rational market response to price changes. A study by Merton J. Peck and John J. Beggs of manufacturing sector behavior amplifies this point by examining experiences in specific industries. Arnold W. Sametz undertakes a review of financial barriers to investment in conservation involving a survey of actual practice. He suggests the problems may be due more to higher risks and administrative costs than to the shortsightedness others allege.

This hardheadedness does not carry into the conservation program chapters. These are efforts to describe what was done and what little is known about how well the state goals were attained. Unfortunately, the discussions are devoid of meaningful economics appraisals and are vitiated by the lack.

In contrast, Nivola's book benefits from largely ignoring conservation as defined in the last half of the Sawhill-Cotton volume. Nivola proves a rare political scientist with enough economic literacy to recognize to a large degree that efficient markets usually are the proper means to achieve efficiency in energy and other realms. He terms allocation by price *conservation*, largely because of the unanticipated large consumption declines induced by higher prices. He stresses that advocates of free-market pricing neglected consumption effects and concentrated unduly on production incentives.

The book is predominantly a review and analysis of energy policy decisionmaking, but what might be sound economics is used as the standard of performance. Specifically, the author treats four energy policy debates—oil price controls, gas price controls, federal legislation to force more efficient pricing of electricity, and gasoline taxation. This last example was chosen in part because Nivola believes that absence of user fees on highways creates overuse and that tax would have been superior to the efficiency standards actually enacted. However, hints that he believes market decisions undervalue energy also appear. In dealing with electricity, he senses, but does not make explicit, the complexities of ratemaking. Time-of-use rate structures are only part of the process of setting optimum rates. Actual time-of-use rates, in fact, leave all rates below marginal cost. Given these problems and the secondary importance of the debates, the gasoline tax and electricity rate discussions predictably prove much less satisfying than the oil and gas price control reviews.

The actual concern of the book is with the forces that produced the political decisions made about each of the issues. Nivola analyzes the relative roles of executive branch actions, congressional attitudes, lobbying, and public opinion in affecting the outcomes.

Both in each chapter on a specific topic and in his conclusions, the author reviews the influences affecting the legislation. He convincingly argues that the dominance of any interest group, be it energy industry, energy-using industries, the automobile industry, consumer groups, or environmentalists cannot explain the melange of energy decisions made since 1974. These decisions have pleased no one. Except perhaps in its resistance to a higher gasoline tax, public opinion has not been clear enough to have a decisive effect. Local interests have been influential but not decisive.

This leaves what his summary calls policy management and political conviction as the key influences. As the chapters on the specific policies make clear, policy

management is a euphemism for the ineptitude of energy policymaking by the Ford and Carter administrations. As might be expected, Carter's more clear-cut failings are more satisfactorily explained than Ford's refusal to veto the Energy Policy and Conservation Act that perpetuated oil price controls.

Nivola largely agrees with writers such as Edward Mitchell, who believe that another key was an ideological dispute about the optimum policy. However, he takes pains to dispute the charges that the Democratic party had been radicalized. He contends that the dispute was an essentially small, long-standing one over how best to get competitive results and how much weight equity should have on policy. Presumably, Nivola wishes to reassure disaffected Democrats, but establishing better motivations does not remove the errors.

Overall this is a competent study that is right far more often than it is wrong. Given all that has preceded it, however, its contribution is marginal.

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B. R. Mitchell, *Economic Development of the British Coal Industry, 1800-1914* (Cambridge: Cambridge University Press, 1984), 381 pages.

One of the most difficult issues in applied economics is determining the extent to which human ingenuity can overcome prevailing market forces. Noneconomists often manage to overemphasize both the difficulties of developing unimagined new approaches and the ease of preserving tired old industries. Failure is blamed on bad management. This tendency is widespread in discussions of coal. Assertions abound that the industry would not have lost so many markets if its managers had been more alert. (Conversely, the ability to develop rival fuel sources is regularly underestimated.) Such views long have been held in Britain and were the basis for nationalization of the industry. That experience showed that even massive infusions of money could not overcome basic market problems.

Mitchell has undertaken the difficult task of systematically examining the history of the British coal industry from 1800 to World War I. From the more accessible portions of the fragmentary surviving records, he has constructed estimates of output, sales by type of customers, investment, wages, output per worker, royalties, prices, and profits. His text provides a careful, dispassionate discussion of the material. Appropriate caveats are made about the numerous gaps in the data that preclude definitive conclusions. Nevertheless, he believes enough evidence exists to indicate the basic nature of the industry.

He sees an industry that was simultaneously dominated by existing operators and workers but was still able to attract new resources as demand expanded. Competition in the coal market clearly was as vigorous as it was in the market for labor. Unionization

was probably secondary to market forces in affecting the workers. The main problem was that fluctuating demands produced fluctuating prices which affected wages.

Neither profits nor royalties had a substantial influence on coal's competitive position. The industry undertook many important technical innovations, including the adoption of longwalls to support workings instead of leaving coal behind as a support, the introduction of explosives to loosen coal, mechanized hauling, mechanized cutting, electrification, and coal cleaning. Mitchell believes that these were introduced at a reasonably efficient pace.

In short, the picture that emerges is that of a vigorously competitive, technically progressive industry. Mitchell is deliberately restrained in relating his conclusion to the strongly held view that coal was a backward, viciously managed industry. His critique is limited to comments that certain specific antimanagement conclusions of prior writers are unproven or wrong.

This then is a scholarly tome with all the strengths and weaknesses of such works. Care, detail, and sobriety produce sound conclusions but heavy reading. All who are involved in the considerably legacy of the mythology about the nineteenth-century coal industry should be aware of Mitchell's results. As often occurs, popular belief fails to correspond to economic reality. Unfortunately, another economic reality is that books of this type no longer can be priced at levels that allow everyone concerned with energy policy to obtain them. Libraries definitely should acquire the book, and most energy specialists would benefit from at least skimming it.

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René Codoni, Hi-Chun Park, and K. V. Ramani, eds., *Integrated Energy Planning—A Manual* (Kuala Lumpur: Asian and Pacific Development Centre, 1985).

In this study the contributors seek to provide—in about 725 typescript, phonebook-sized pages—the basic knowledge needed for a systematic analysis of energy markets. The three volumes deal with data and demand, supply, and policy formulation, respectively. The data and demand volume contains about 25 pages of overview and about 100 pages each on energy data systems and modeling. The four substantive chapters of the supply volume deal with resource appraisals, comprehensive appraisals of nonrenewable resource industries, comprehensive appraisals of renewable resource industries, and electricity. The policy volume deals with integrating supply and demand analyses, energy—economy interactions, investment planning, environmental impacts, and “supply—demand” management, primarily involving efficient pricing.

The manual seeks to provide the beginner with the analytic tools, illustrations, and data needed to conduct energy studies. What is presented unfortunately differs radically from chapter to chapter. A uniform effort to stress the most effective

techniques is not provided. The data system discussion emphasizes methodology, and any specific data shown are illustrative. The demand modeling section, however, stresses review of specific models, not always the most useful ones.

While the electricity chapter of the supply volume is concept-oriented, the other chapters are discussions of supply prospects with little review of analytical methods. The bulk of the supply–demand reconciliation chapter contains a recitation of facts about consumption and production as a preliminary for a brief review of methods of integrating forecasts. The energy economy chapter is even more heavily oriented to listings of problems. The investment chapter is an overview of methods of private as well as public sector investment analysis, and the environmental chapter balances review of problems with concepts of analysis. The supply–demand management chapter fortunately is misnamed. It is mostly about efficient pricing, with a few pages of appropriately skeptical discussions of policies to increase thermal efficiency.

Overall, the book comes as close as any committee effort can to meeting its goal of providing beginners with the insights needed for energy analysis. Those embarking on a crash course in the area will find the study a valuable start. Others will find it less useful. The breadth necessarily is at the expense of depth. As a skeptic about the wisdom of integrated planning in any sense, I was relieved to see that most of the material is about market studies rather than about how to regiment energy industries.

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Joseph A. Yager, with the assistance of Shelley M. Matsuba, *The Energy Balance in Northeast Asia* (Washington: The Brookings Institution, 1984), 249 pages.

Richard E. Caves and Lawrence B. Krause, eds., *The Australian Economy: A View from the North* (Washington: The Brookings Institution, 1984), 415 pages.

China Coal Industry Yearbook (Hong Kong: People's Republic of China, Economic Information Agency. USA distribution Golden: Colorado School of Mines Press.)

As U.S. trade with the region mounts, more attention is being directed to what has been termed the Pacific rim. These otherwise quite disparate books are different manifestations of this interest. Yager's is the critical book for most readers of this journal. He provides a review of energy development and plans in Japan, Korea, and prospects side is more heavily emphasized; historic patterns of consumption, response to oil price increases sources of energy supplies, and the associated problems with imports are all covered in less than eighty pages. The rest of the book discusses possible ways energy consumption might develop and how it could be met. This all provides a useful view of matters on which data are hard to assemble

As its title suggests, the Australian volume provides an overview of conditions in that "happy country." The chapter writers are a distinguished group of



North American economists. Energy as such is not given detailed treatment, but most of the chapters deal with aspects of natural resource issues. A full chapter by John F. Helliwell is devoted to the relationship between natural resources and the economy. The macroeconomy, labor, fiscal federalism, and comparative advantage chapters raise other germane issues. The result is a guide to the context in which Australian energy developments occur.

Even compared to other Communist countries, China is difficult to appraise because of faulty data and gaps in reporting. Thus, western specialists on China and coal welcomed the government effort to provide an English language discussion of the industry. The most useful elements prove to be a short section of data on production experience, largely devoted to recent years; directories of mines and coal industry institutions; and fairly detailed discussion of the principal new mine development programs. Much of the balance consists of chronologies and texts of directives, speeches, and articles, predictably peppered with ideological statements that sometimes are the most interesting part of the documents. The patient reader, however, will glean further insights into the problems of the industry. This is another book for an energy library's reference shelf.

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