

## BOOK REVIEWS

*Electric Cooperatives on the Threshold of a New Era* by PUBLIC UTILITIES REPORTS. (Vienna, Virginia, USA: Public Utilities Reports, 1996), 232 pages. ISBN 0-910325-63-4.

Electric utility restructuring has received considerable attention in the media, trade and academic journals. Almost all of its attention, however, has been focused on the ramifications of restructuring for investor-owned utilities and their ratepayers. Little if any attention has been directed toward rural electric cooperatives. Moreover, there are few analyses which examine the unique structure and mission of rural electric cooperatives. The purpose of this book, prepared by Public Utilities Reports, is to examine the operation, structure, development, and challenges of rural electric power. The book is divided into five parts: (1) the Cooperative Organization; (2) Generation and Distribution of Power; (3) Accounting and Finance; (4) Regulation and Rates; (5) Competitive Strategies.

The first section of the book reviews the evolution of electric cooperatives, provides a history of the Rural Electrification Administration (REA), and discusses cooperative service obligations and member relations. The underlying theme is that rural cooperatives are organized in a fundamentally different manner than investor-owned or municipal utilities. After a good discussion of the existing market structure of rural power, and the role and composition of the rural power sector within the electric utility industry, the section concentrates on the unique aspects of rural electric service obligations and reiterates the original rationale that customer ownership better ensured service than did either the pursuit of profits (like the case with IOUs) or the public service approach of municipals.

The second section of the book, Generation and Distribution of Power, provides an overview of the way in which cooperatives provide power to their customers. The section highlights the differences between generation and transmission (G&T) and distribution cooperatives and includes chapters on the provision of electricity to cooperative consumers, meeting future power requirements, the role of the federal government in the provision of electricity, and the impacts of cogeneration on the electric utility industry. The section includes a very accessible discussion of the dynamics, technical, and operational characteristics of electric generation.

The third section of the book describes the unique accounting and financial structures of rural electric cooperatives, including the special accounting codes established by rural electric cooperatives (which mirror the FERC Uniform System of Accounts). There is also an instructive discussion on the role of patronage capital on rural utility system operations. The section highlights some of the unusual financing arrangements of rural electric cooperatives including their unique capital structures, times interest earned ratios (TIE ratios), and their debt service coverage ratios (DSC ratios). Financial and loan arrangements between rural electric cooperatives and the Rural Utilities Service (RUS) and the means by which cooperatives secure supplemental financing (outside the RUS) are also discussed.

The fourth section of the book discusses the regulation and rates of rural electric cooperatives. This section highlights the differences in state regulation of rural electric cooperative rates noting that only 21 states currently have the authority to regulate or control cooperative rates. The section also highlights RUS' role in regulating rates. The book correctly points out how RUS' goals in rate design (which rest primarily with ensuring that sufficient revenues are collected to repay government financed loans) can often conflict with the low-cost of service ideals of rural power.

The fifth and final section of the book discusses the competitive changes that are now occurring in the electric utility industry. This section outlines the changes occurring in California, experimental retail wheeling plans in Michigan and New Hampshire, the FERC Mega NOPR (now Order 888), the impetus for competitive change embodied in the Energy Policy Act of 1992, and the recent increase in mergers and acquisitions in the industry.

Overall, the book is well written and provides a considerable amount of general information in an accessible form. A useful feature is that the book is presented in a number of self-contained chapters that can be read individually without loss of context. Appendices, a technical glossary, and a state-sorted listing of rural electric cooperatives are included at the end of the book. The omission of a detailed bibliography, however, is a serious shortcoming.

The biggest shortcoming of the book is the absence of a critical assessment of rural electric cooperatives. There is no hard-nosed look at the economic, financial, and operational characteristics of rural power relative to its potential competitors. For instance, the book does not look at the cost structure nor rate competitiveness of cooperatives relative to other electricity providers. The book does not examine or compare employee/customer (or member) relationships or time trends of administrative and general costs with IOUs and municipals. Further, the book fails to assess the documented financial troubles of many rural electric cooperatives like the Colorado-Ute Cooperative, the Wabash Valley Power Association, and the currently evolving disaster with the Cajun Electric Cooperative. In fact, only passing references have been made to the Colorado-Ute and Wabash Valley cases: Cajun is not mentioned.

The rural cooperative industry is depicted as one which lives in relative harmony. Neither the persistent tensions between the Tennessee Valley Authority and its cooperative customers, nor the recent reorganization of the Olgethorpe Power Corporation into three separate units under the threat of losing six member cooperatives, is discussed. Similarly, the book neglects the growing tensions between cooperatives and their members epitomized in such recent member allegations of mismanagement levied against the Big Rivers Electric Corporation and the mismanagement associated with the \$5.68 million write off by the Verdigris Valley Electric Cooperative for bad economic development loans.

In this era of restructuring and change, it is strange that the book does not critically assess the future role of rural power. Rural power cooperatives and the Rural Electrification Act (REA) were established to electrify the rural countryside. Yet today, most all rural areas are electrified. Are there any continuing goals for rural electric cooperatives or should they declare themselves a success and succumb to the strong merger inclinations of the industry? Will the REA be abolished given current federal budget constraints and the clamoring for the cessation of privileged loans to the rural power sector of the industry? Could rural power survive without these preferential loans and government guarantees? These are the important and timely questions that receive no critical analysis by the authors and thereby limit the book's appeal to electric utility analysts and scholars.

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*The Privatization of Public Utilities* by LEONARD S. HYMAN, ed., (Vienna, Virginia, USA: Public Utilities Reports, Inc., 1995), 473 pages, ISBN: 0-910325-59-6

Restructuring and privatization of utilities—telephone, electric, natural gas, and others—have, if nothing else, created a cottage industry in publishing anthologies. If these books are read with the mindset that they are not the definitive sources on the subject and that over time other authors with the benefit of hindsight are likely to conduct more complete analyses, possibly with different conclusions, then readers of these anthologies will not be disappointed. Leonard Hyman's collection of papers should be read with this frame of mind.

To be fair, Hyman's objective with this text is limited, and he states so in his preface. The book discusses the basics of the privatization process through a series of papers written by authors with hands-on experience. Hyman notes that many people are embarrassed to ask about the basics; accordingly he selects authors who write with the assumption that their readers have little knowledge of how restructuring and privatization processes work. As a consequence of these authors' having direct professional experiences in privatization, many papers in the book have a specific perspective and purpose. The danger here, of course, is that the reader trying to sort out the basics may assume that one particular viewpoint is more than just that.

In the first chapter of his book, Hyman defines privatization broadly to include industry restructuring. This is in contrast to the definition he presents in the preface, where he uses the more narrow and commonly accepted notion of this term, namely the sale of government-owned businesses to the private sector. Hyman explicitly acknowledges his broadening of this definition when he writes in his first chapter: "Perhaps 'restructuring' is a more descriptive term for the process than 'privatization.'" Given that a whole section of his book focuses on the U.S. electric utility industry in which privatization is not applicable for the most part, Hyman could have served his interests better by using the word 'restructuring' in the title of his anthology.

The book has eight parts, each with a varying number of papers. Part I consists of four chapters written by Hyman and sets the stage for the remainder of the book. This section is the basics of the basics, and even keeping Hyman's audience in mind, it is hard to imagine a segment of his readers who would not quickly skim this part, with the possible exception of an initial undergraduate class in regulatory economics.

Part II is somewhat out of place. Its title is "Views from the Field," but given that there are two other sections that respectively address the United Kingdom's privatization of its electricity industry and telephone privatization, it's not clear why Part II is inserted here. In any event, three of the papers are advocacy pieces, which are more appropriately described as presentations, not papers. The paper by M. Mario Zenteno entitled "Chile and Beyond: Privatization in Latin America" is worth reading because it gives a comprehensive review of the privatization of Chile's electricity industry, which is the paper's primary focus.

Hyman begins the next section with a paper by David Haug who works for Enron, a company that prides itself on "doing the deal." Haug's paper is worth reading because it both provides a hands-on perspective of dealmaking and discusses how this important company conducts business throughout the world.

Part IV, "The Public Offering and Beyond," examines selling the shares of the newly privatized company and dealing with shareholders afterwards. This section points out several unique aspects of privatizing national

industries that are important, both from a policy and political point of view. In particular, these issues include governments' retaining some corporate control over the newly formed company; maintaining at least some degree of national ownership of the company's stock including among average citizens; and managing the investment community. The paper by Angel Cordero emphasizes a key point: "Perhaps the basic problem within the process of privatization lies in what the state should and should not do." Unless those important policies that are necessary for regulating these newly formed companies are in place, the benefits of privatization will not accrue to the nation as a whole, but rather to shareholders.

Part V consists of four papers on management and finance topics. The primary thrust of these papers revolves around the U.S. and its electric power industry restructuring; not much of this section is linked specifically to privatization. The papers are on reengineering, financial strategy for U.S. investor-owned electric utilities, the U.S. bond market, and power supply contracts. These papers are decent primers on their topics.

Parts VI and VII are perhaps the most useful. As stated above, these sections address privatization of the U.K.'s electric power industry and telephone deregulation. Alex Henney provides a comprehensive and dispassionate review of the electricity supply industry in England and Wales. The paper examines the privatization effort from its inception through an after-the-fact review of its successes and failures; it also considers the political, economic, and implementation issues associated with this privatization effort. The anthology ends with brief concluding remarks.

Overall, some of Hyman's collection of papers are helpful, but if the opportunity is missed, do not fret; the next anthology is expected to be published soon.

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***The Geopolitics of Energy Supply in the European Union in the 21<sup>st</sup> Century*** by JEAN-PIERRE PAUWELS et al. (Émile Bruylant: Bruxelles, 1994), 235 pages, ISBN 2-8027-0954-2.

This study of the future prospects for European energy supply is literally two books in one: the main text, written in French, is accompanied by a 45-page booklet, which summarizes in English key points of the analysis. All in all, the main preoccupations of this work are somewhat narrower than the title

might suggest: the focus is clearly on issues related to natural gas supply and demand.

Both the main text and the booklet are divided into six chapters, which can be grouped under two broad headings: policy issues and supply/demand forecasting. Chapters one and six are a plea for the development by the European Union of a gas-supply policy. To date, policy has focused on the internal market—issues arising within member countries. The authors argue that is clearly insufficient. Since the European Union as a whole is not currently self-sufficient in natural gas and will become increasingly dependent on foreign sources to meet internal demand, a reasoned approach must be taken to securing supplies from these foreign sources. The authors' perspective on this point is that, left to their own devices, market forces would prove inefficient in solving this problem. Representatives of individual member countries competing against one another to secure supplies would result in higher gas prices and would do nothing to reduce supply uncertainty.

Instead of reliance on market forces, the authors put forth a two-pronged approach: producer-consumer dialogue and joint action by the countries of the European Union. Much has already been written on the usefulness (or lack thereof) of producer-consumer dialogue, and nothing that I could write in a book review would sway anyone one way or another—and, to be fair to the authors, they clearly don't see this as a panacea.

I would like, however, to raise two points on the question of joint action by Union countries. First, as the history of OPEC has demonstrated, there are incentives to cheat in a cartel. Why should this be any different on the demand side? Would there not be incentives for individual countries to depart from the joint position when their own interests, as far as securing natural gas supplies, dictated so? The authors implicitly address this issue by calling for the principle of joint action to become an explicit part of Union policy, which could then increase the cost of any member acting on its own when securing gas supplies (e.g., by linking gas supply policy to Union policy initiatives in other sectors).

Second, why should potential suppliers accept to deal with a "cartel" on the demand side? In what sense is it in their best interest to do so? Access to funding is the answer proffered by the authors: for most potential suppliers, gas development projects will require access to foreign financial capital, which could be provided more efficiently by the countries of the European Union acting as a whole. No empirical evidence is offered on this point, and the perspective of the potential suppliers is certainly not well developed.

In any case, these chapters give the reader a useful outline of the process of energy policy-making in the Union. A minor quibble about this discussion is that a number of the acronyms used are not defined anywhere in the text. My lack of familiarity with some of the institutions and agencies of the European Union is no doubt responsible for my picking up on this point.

The remaining four chapters present the authors' forecast of the evolution of natural gas demand by the European Union between 1994 and 2010 (chapter two), and the prospects for meeting this demand from known sources. Chapter three focuses on reserves and export capabilities of current and potential suppliers, while chapter four deals with exploitation costs and prices. Chapter five brings the two sides of the market together to assess the prospects of sustaining a balance between supply and demand into the next century.

As is the case for most studies of this kind, a number of alternative scenarios are developed and put through their paces. And these are of the standard variety: more or less rapid economic growth, different assumptions about prices of competing energy sources, etc.. Within this context, two aspects are particularly interesting. First, on the demand side, the authors carefully point out the key role of electricity generation. Future demand patterns for natural gas are markedly affected by the degree to which that fuel is successful in displacing its competitors in the thermal electricity generation market. At this stage, a more detailed discussion of related environmental considerations would have been interesting, especially when it comes to the future prospects for nuclear power and for coal-fired plants. As things now stand, the treatment offered by the authors is cursory, and comes too late (most of it can be found in the first few paragraphs of chapter six).

Another interesting aspect, this time on the supply side, is the care taken by the authors to consider both the economic and the political dimensions of securing supplies from various sources. In particular, the discussion of liquefied natural gas and its place in meeting future European gas requirements was especially interesting.

On a less positive note, it might have been better to leave out chapter five's discussion of the supply/demand balance for natural gas in North America and Asia/Oceania: it is simply too short (pages 197 to 205) to do the issue justice. I would also have been useful for the authors to compare their forecasts with those generated by one or two other agencies (e.g., the International Energy Agency), so that the value added of the exercise could more easily have been identified.

Overall, this is a useful book for those interested in energy policy-making in the European Union and in the future evolution of natural gas supply/demand balances in this region of the world.

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***Oil and Gas and Government (Vol. I and II)***, by ROBERT L. BRADLEY, (Rowman & Littlefield Publishers, Inc., 1996), ISBN:0-8476-8110-6.

Robert L. Bradley Jr.'s 2000-page book in two volumes contains the most ambitious attempt yet to unravel the regulatory history of the U.S. petroleum industry over the past 150 years or so. The mind boggling complexity of this history with an abundance of policy blunders makes it well suited to Bradley's ultimate aim: To demonstrate the destructive consequences of government intervention in the free market exchange system. Except for defining and enforcing property rights and maintaining peace, the author's judgment is that government intrusion in the industry has always and everywhere failed to enhance social welfare. Bradley even suggests that the failure of government intervention is a necessity in that it may reflect "the working of immutable economic law" (p. 1762). On this basis, he generalizes that "...the future of intervention holds no more promise than the past" (p. 1768).

Having said this, the course of the book is relatively predictable, but that doesn't make it uninteresting. Although the book is often quite dry with extensive descriptions of literally thousands of laws, regulations, and cases, it is nevertheless hard for the reader to escape feelings of wonder at the awesome resourcefulness and determination of dominant interest groups in subverting the market process. Those with such inclinations may also feel sadness at the efficiency losses arising from the tremendous expenditures of political and regulatory efforts as well as opportunity costs stemming from inefficient market solutions. (Bradley wisely declines to state specific estimates.) Fortunately, the book also has comic relief: The economic absurdity of regulations leading rational decision makers to move a well uphill in order to increase well depth, pay \$50,000 for a single barrel of crude oil, ship gas through a 32 feet long interstate pipeline, etc. Unfortunately, the happy ending of the story itself is not told in the book. Based on research completed in 1986 (this is a guess, since the book is not clear on this point), the book mostly misses the victory of free market economics that took place in the last half of the 1980s and to the present, particularly in the natural gas industry. (A few footnotes report the demise of various policies.) The general principle that seems to have operated in the oil and gas industry—and this is well covered in the book—is that substantial intervention in the market process requires an increasingly complex system of regulation which, in turn, creates increasingly severe market distortions. The great irony of regulation may very well be that, ultimately, the system does not serve any political constituency well and it therefore either collapses or leads to total planning, i.e., socialism—at least according to Bradley and the ideological school with which he identifies, the Austrians. If so, the implication is, of course, that regulation should be avoided in the first place.



The theoretical concepts that guide the book are based on Austrian economics. Extending Adam Smith's well-known finding: "The important insight of the invisible hand theory is that, unlike the case with nonmarket (governmental) alternatives, beneficial processes exist in unregulated markets to *minimize* (Bradley's italics) economic error" (p.17). Conversely, the author has very little respect for the political process: "The [political] decision making process, unlike the market where true owners make sovereign choices, is a tyranny of the more politically powerful over the less politically powerful" (p. 305).

In the book, Bradley argues very persistently that the industry has ended up as a chronic economic underperformer as a result of misguided policies. Sometimes the tyrants dominating politics are producers wishing output restraints to keep prices high, at other times the tyrants are consumers desiring cheap gasoline, or they may be more complex alliances of various interests. Whoever dominates the political system, the result is always the same: The subversion of the economically superior "spontaneous order" (the term is from the Austrian tradition in economics) which would have prevailed in the markets in the absence of regulation.

Many economists, including this reviewer, will resist Bradley's extreme conclusions. His findings regarding price regulation and price manipulation by government entities are, no doubt, shared by the majority of economists. Bradley goes beyond that position, however, when he makes claims such as "Government intervention in the oil and gas industry has consistently failed to enhance social welfare" (p. 1762). He seems to mean, literally, that *all* government policies affecting the economic system (except property rights policies and those designed to maintain peace) are undesirable. This general case is much harder to make than the much more limited case against price control and price manipulation. Are we, for example, to believe that government intervention in the case of natural monopoly and pollution externalities—two classic rationales for intervention—always and everywhere lead to economic inefficiencies? This is, of course, a very relevant issue to energy policy makers these days focusing on how to handle natural monopoly elements in natural gas distribution and transportation and to policy makers in the pollution arena. It might be a needed, humbling experience for these policymakers to read Bradley's book, but it is not likely to convince them that economics has no role to play in policymaking—except to provide a rationale for non-intervention. What is then the niche of Bradley's book?

Economists long have overwhelmingly viewed the history of the U.S. petroleum industry as regulatory failure. The importance of the book is therefore not that it can be expected to change the policy debate significantly. Moreover, the expositions of theory (e.g., the economic theory of natural resource conservation) are too brief and sometimes confusing, implying that the book is

not a handy theoretical reference. Lastly, very few readers will choose to read the work from cover to cover; the volume of facts is just too overwhelming. That's unfortunate, however, because one of the most rewarding features of the book is precisely that the patient reader gains a sense of the dynamics of regulation using the oil and gas industry as a case.

The niche that remains for the book is as a reference. In terms of time period, coverage of vertical and horizontal industry segments, and descriptions of political processes, Bradley's two handy volumes offer the reader the most comprehensive regulatory history of the U.S. petroleum industry in print.

The organization of the book follows the expected and convenient formula of presenting, in chronological order, public policy towards each industry segment, starting with production and ending with marketing and retail sales. (Retail natural gas sales are not included in the analysis, as they are the regulatory domain of individual states.) The presentation of each segment tends to first describe the contending political interests, the resulting public policy, and, finally, analyses the corresponding industry performance in terms of economic efficiency. Towards the end of the book, there are two chapters on economic and policy conclusions and a chapter containing policy implications. These are followed by several interesting appendices, including one listing all federal laws pertaining to oil and gas enacted from 1861 to the present. Lastly, the book contains name, subject, and case indices. In effect, every bit of public policy relevant to the industry, large or small, seems to have found a place within an appropriate explanatory context in the book.

Since the book draws extensively on published research, government documents and industry sources—and given its scope—it also provides a good reference to the relevant literature. The reader is cautioned, however, by the following two shortcomings which detract from its value as a reference.

First, as noted, it is unclear when the book ends in terms of the chronological description of the industry and in terms of including references to the literature. The introduction and the accompanying promotional materials are of little help, the reader has to search the book to find that the end-point is probably the mid-1980s. Basically, the impression is that the book contains research that stopped in the mid-1980s and was published in 1996. Much has happened since, both in terms of policy events and in terms of publishing of research of events taking place prior to the mid-1980s. Readers looking for either of these will be disappointed, particularly since they are not properly forewarned. Second, one would expect the book to list conveniently the relevant literature. The chosen method is through a name index at the end of the second volume referencing page numbers where the names, including authors' names and complete references to the literature, appear. The name index is seriously incomplete since, curiously, it misses the names used in the numerous footnotes sprinkled throughout the book.

In summary, Bradley's ambitious work on the regulatory history of the U.S. oil and gas industry is a great contribution to the literature, whether or not one agrees with its sweeping conclusions. It will probably be used mostly as a reference book and, despite its shortcomings, deserves a place as such in the library of all professionals with an interest in the industry.

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