BOOK REVIEWS

THE SOCIAL GAMBLE. By Richard J. Tobin. Lexington, Mass.: D. C. Heath & Co., 1979. Pp. xvi, 174. $17.00

In THE SOCIAL GAMBLE, Professor Tobin addresses the federal government's efforts to define acceptable air quality levels for sulfur oxides, in particular, sulfur dioxide. In choosing to focus on this one significant group of pollutants, Tobin has sought to examine, "how the federal government, once it had decided to abate air pollution, has determined the risks associated with this pollution and translated a vaguely stated preference for clean air into a precise definition." (P. xiv.)

The book is primarily a fairly straightforward account of the legislative and bureaucratic maneuvering that has led to the present statutory and regulatory standards for sulfur dioxide levels in the atmosphere. Tobin observes in his introduction that the "book is based on the premise that the achievement of clean air is less dependent on how laws or politicians extol its virtues than on what administrators do about it." (P. xiv.) Accordingly, he concentrates much of this analysis on the activities of relevant federal agencies, most notably the Environmental Protection Agency. Nevertheless, he also devotes considerable attention to the spate of Congressional activity that has produced, within fifteen years, four major pieces of air pollution legislation—the Clean Air Act of 1963, the Air Quality Act of 1967, the Clean Air Act Amendments of 1970, and the Clean Air Amendments of 1977.

Tobin's recounting of the legislative and administrative process serves to highlight a few of the basic forces at work in the shaping of air pollution policies. First, Tobin notes that the business community has generally resisted all efforts to regulate the emission of sulfur oxides into the atmosphere. He identifies three specific industries—coal, oil, and electric utility—as those spearheading this resistance. Each of the three has its own reasons for opposing sulfur oxide regulation: coal interests fear a forced reduction in the use of coal, which when burned releases sulfur oxides; oil companies believe that greater demand for low-sulfur oil could injure their investments in high-sulfur fields; the power utilities object to

the added costs they would incur in using the more expensive low-sulfur fuels and in introducing the technological changes needed in to meet new pollution standards.

But while their motivations may differ, their lobbying strategies, according to Tobin, are the same: to attack the scientific credibility of the research on which the regulatory standards are based and, at the same time, to emphasize the adverse economic consequences that would follow implementation of actual emission standards. This two-headed mode of assault was graphically illustrated by the coal industry's reaction to publication of air quality criteria for sulfur oxides by the Public Health Service in 1967. In short order, the National Coal Association hired a private scientific concern to "analyze" the criteria; predictably, the resulting report "maintained that the criteria document was replete with bias, oversimplification, prejudiced conclusions, unscientifically doctrinaire viewpoints, and 'bold, unqualified numerical certainties.' " (P. 55.) Along with this document came the forecasts of economic disaster. One coal executive, for example, asserted that if the recommended criteria were used, Americans " 'would be faced with a blackout which would blanket substantially all the Nation and reduce the wheels of industry to a crawl for years and years.' " (P. 56.)

Industry resistance has remained steadfast in more recent years and, apparently, the nature of the objections has varied little as well. Commenting on business testimony at Congressional hearings held in 1975 to review standards established by the EPA, Tobin finds that, "the argument seemed to be that regulation would be premature in the absence of indisputable data. Once again, the arguments against environmental regulations had barely changed from the early 1960's to the mid-1970's." (P. 134.) And, in hearings prior to the enactment of the Clean Air Amendments of 1977, the coal industry repeated its claim that more information would be needed before further controls could be justified.

A second "force" at work, one which Professor Tobin would indeed like to be more of a force, is Congress. Tobin criticizes the failure of Congress to be more specific in formulating administrative guidelines for the regulators. He complains of the lack of direction from the legislators in determining the relative weights that should be accorded to social, economic and environmental values by the EPA. In addition, he points to the lack of clarity in defining elements of the air quality standards themselves. A critical example

was Congress' failure to amplify the meaning of the term "adequate margins of safety," employed in its 1960's legislation.

Still, despite his insistence that Congress do more, Tobin concedes that in all likelihood administrators will continue to shoulder the major burden of defining acceptable levels of air quality. In evaluating the success of those administrators, he obviously is concerned that their efforts may be undermined by the criticisms being leveled by the scientific community against the research that has served as the basis for sulfur oxide standards. He notes, for instance, a 1976 report sponsored by the House Subcommittee on Environment and the Atmosphere in which the scientific reviewers pointed to " 'technical errors in measurement, unresolved problems in statistical analysis, and inconsistency in data' " in some EPA studies that made them " 'useless' in determining the precise level of air pollution that caused harm." (P. 141.) He also observes that research on the effects of sulfates—a form of pollutant created from the release of sulfur dioxide into the atmosphere, that may be more harmful than sulfur dioxide itself—has been alarmingly insufficient and inconclusive. Tobin understandably fears that the EPA standards will be open to doubt and skepticism unless they are based on reliable research that is respected throughout scientific circles. Unfortunately, this problem is likely to linger for some time, since the science of measuring and analyzing air pollution is fairly new, complex and not always as accurate as might be desired.

Aside from the scientific uncertainties, Tobin also perceives a number of other flaws in the EPA's research programs. First, Congress has not appropriated enough money to carry out adequate research activity. Second, there are not enough good research scientists working in this area for the government, a result of the comparatively low pay, shifting policies and general shortage of individuals trained and willing to conduct research on air pollution. Furthermore, according to Tobin, the research efforts have been plagued by bad management, arising largely from the short tenure of a high percentage of administrators, many of whom are political appointees without any special experience or expertise in the environmental field. In addition, Tobin attributes some of the managerial shortcomings to the fact that EPA's success as a regulatory agency is often measured by the number of enforcement actions it initiates rather than by the quality of the research it conducts. Finally,

Tobin feels that the EPA is sometimes forced to fix standards without adequate data simply because unrealistic deadlines have been set by Congress.

The author acknowledges that "substantial reductions" in air pollution levels have been achieved since 1970 and that further reductions are likely. But he emphasizes the failure of the EPA to adequately deal with some forms of sulfur dioxide pollution, such as sulfates, and warns that, "as the continuing uncertainty over the appropriateness of the SO_2 standards have shown, their achievement will not necessarily mean that the public's health is protected from the effects of polluted air." (P. 164.)

Nevertheless, despite his criticisms, Tobin is not proposing drastic structural changes in the regulatory scheme. Instead, he makes only two concrete recommendations, both aimed more at Congress than the administrators: (1) more explicit legislative direction and (2) increased financing. Yet, his review of the EPA's performance to date implies, at the very least, that administration can be improved by the appointment of more professional, science-trained managers with an interest and expertise in environmental specialties. Scientific research will undoubtedly improve with more manpower, experience, and money.

Tobin does succeed in conveying some understanding of the nature of the regulatory process vis-a-vis air pollutants. Still, his analysis does contain a number of gaps and flaws. For one, despite his realization that there are competing interests and values which affect environmental policy, he is surprisingly unsophisticated in his discussion of popular attitudes towards environmental controls.

He suggests, for instance, that public support for environmental concerns has been fairly widespread, offering as evidence public opinion surveys "documenting" support for increased social regulation, including environmental controls. He concludes that surveys taken in the 1970's demonstrate that a "clear majority of the public favors increased governmental spending on programs to reduce air and water pollution." (P. 167.)

Yet, Tobin does not tell us whether respondents to those polls were also prepared to pay higher electric bills and face higher taxes, two probable consequences of greater regulation. It is one thing for a person polled to assert that he favors environmental regulation; it is quite another matter when that same individual is asked to support programs that will take hard-earned dollars from his or her pocket.

In fact, one source that Tobin cites in support of the notion that the public favors imposition of environmental controls, reports on one poll that suggests that the public's enthusiasm for environmental regulation wanes when it realizes that it will be footing the bill. In a 1976 Harris survey, respondents were presented with four proposals to help clear up industrial pollution.

	Favor	*Oppose*	*Not sure*
Increase taxes levied against companies that continuously pollute	82%	11%	7%
Decrease taxes on companies that clean up the pollution of the environment	64	27	9
Give direct federal government aid to manufacturers to assist in pollution control	38	51	11
Pass along increased costs of pollution control equipment to the consumer by charging higher prices	18	74	8[1]

Not surprisingly, a majority preferred alternatives in which someone else would pay. One wonders what the responses to the first and second proposals would have been if the respondents had been told that polluting companies would simply pass on the cost of punitive taxes and that decreasing taxes on non-polluting companies is really a form of tax expenditure.

Another of the author's perceptions of the body politic also seems ill-founded. Tobin, who believes that federal regulatory agencies are an effective way to reduce air pollution, assumes that most Americans agree with him. While a federal effort does appear to be more appropriate than state or regional plans, Tobin should be aware that popular support for environmental concerns does not automatically translate into popular support for increased federal regulation. On the contrary, a constant thread in American political thought has been antipathy towards the ever-widening arc of government intervention on a national level. In a discussion of an area permeated by such intervention, Tobin's failure to examine seriously popular views about the expanding federal presence is a significant omission.

1. G. HILL, L. A. FREE and D. R. LESH, PROTECTING THE ENVIRONMENT: PROGRESS, PROSPECTS AND THE PUBLIC VIEW 29 (1976). (Reprinted with permission of Louis Harris & Associates).

Tobin concedes that meeting standards can be very costly for some industries, but he fails to provide us with information about what the actual cost of compliance has been in the past and is likely to be in the future. Because Tobin emphasizes the need to be conscious of social and economic considerations, he has some responsibility to investigate what the costs have been for different types of industries in various regions, whether these costs have been passed on to consumers, and what predictions are for future costs. Tobin occasionally poses the question of whether the government or individual companies should pay for scientific and technological research and the costs of meeting environmental standards, but he never seriously discusses this significant and provocative issue.

Indeed, THE SOCIAL GAMBLE leaves a number of questions unanswered, but this is hardly surprising. The book is concerned with a subject that does not lend itself to routine or simple analysis. The author succeeds in providing interesting and useful commentary on some important aspects of the development of pollution control standards. His technique of focusing in on legislative and bureaucratic efforts regarding one particular group of pollutants exposes many significant problems regarding this nation's efforts to control pollutants generally.

But the book's conclusions have even larger implications. To Tobin, a political scientist, the EPA is representative of a larger whole: social regulatory agencies. Tobin's conceptualization of the EPA as a social regulatory agency appears to affect much of his analysis.

Tobin distinguishes *social* regulatory agencies from *economic* regulatory agencies, asserting that the social regulators tell industries how they can *produce* their goods, whereas economic regulators generally dictate how products should be *sold*. He emphasizes that the social regulators, such as the EPA, tend to deal with a wide variety of industries, in contrast to many of the economic regulatory agencies that deal primarily with only one. Tobin contends that an agency charged with the responsibility of social regulation has the power to drastically change the *status quo* by requiring the expenditure of large sums of money for economically non-productive investments. The exercise of this power almost inevitably provokes industry opposition. This, he points out, is different from the situation with some economic regulatory agencies, where regulation tends to serve as a stabilizing influence and, as a result, is usually encouraged by the regulated industries.

The characterization of the EPA as a social regulator is helpful, particularly in evaluating the consistent business opposition to sulfur oxide standards and the prospects of industry and EPA cooperation in the future. But the approach does spawn some problems of its own.

First, dividing the federal regulatory bureaucracy into such neat categories may be simplistic, even for purposes of analysis. Second, and more importantly, Tobin never really attempts to determine just how representative either the EPA's performance in regulating sulfur oxides, or the EPA in general, is of other agencies. Tobin's discussion of social regulators is only an aspect of his conclusory chapter, but he has obviously done some thinking about his subject and appears to believe that his focus on air pollution standards can be employed to shed light on larger matters. A book with a narrow focus such as this one becomes more interesting and useful if its relationship to a theoretical framework is made as clear as possible.

Professor Tobin generally writes competently and clearly. One can disagree with him or wonder why he chose to ignore what, to this reader, are important issues, but one has the impression that he is intellectually honest—that he cares about the subject and that he is trying to make the reader care as well.

Arnold Rosenblatt

AMERICAN ENERGY CHOICES BEFORE THE YEAR 2000. Edited by Elihu Bergman, Hans A. Bethe and Robert E. Marshak. Lexington, Mass.: D. C. Heath & Co., 1978. Pp. viii, 150. $14.50.

This volume constitutes a collection of essays first presented as part of a 1978 policy conference organized by the City College of New York in collaboration with Americans for Energy Independence, a non-profit public interest coalition. The focus of the conference was on exploring the immediate energy alternatives available to satisfy our national energy requirements for the rest of this century.

On the whole, this compendium makes a unique and valuable contribution to energy literature through its realistic exploration of energy sources and technology for the near future. It also provides a very readable, yet scientifically detailed, analysis of energy alternatives in general. Moreover, it properly avoids the twin pitfalls of doomsday forecasting and hollow optimism which permeate much of the literature in this area. The various contributors attempt to come to grips with specific methodologies and energy sources which might feasibly be developed and utilized in the upcoming years. The existing state of knowledge, finances and government regulations are all considered. Every contributor is an expert in his or her field, providing an unusual breadth of expertise in one concise volume.

The papers are organized into five categories: Part I, an introductory discussion of primary and alternative sources of energy; Part II, the social and economic aspects of energy conservation; Part III, the technological, economic, and environmental factors involved in the utilization of coal as an energy source; Part IV, nuclear power alternatives; and Part V, the conclusion. Since the book consists of separate papers which do not necessarily interrelate, it seems appropriate to analyze each chapter sequentially.

In the introductory section, Nobel Laureate Hans Bethe explores some energy alternatives which have received widespread notoriety, particularly solar energy. Bethe concludes that large-scale solar energy production is unrealistic in the near future, primarily due to the almost inverse relation between solar potential and the need for energy in a given region. For example, regions with high intensity sunshine, such as Florida, tend to require only a small amount of heat, whereas colder areas in the Northeast may not have sufficient sunshine in winter to generate enough heat to utilize solar

heating systems. Installation cost and space requirements are also limiting factors, although the author does suggest that solar energy may be economically feasible if used in conjunction with other heat sources. Furthermore, Bethe presents specific dollar figures and measurements to compare the efficiency of solar energy with natural gas, synthetic gas and various modes of electrical heating. Unfortunately, his methodology and source materials are not clearly identified; footnotes, appendices, and references would have been in order.

Part II of the book deals with various aspects of energy conservation. The first chapter in this section, written by a senior research scientist at Princeton University, quickly sets the tenor for the entire section by noting initially that conservation is in a sense an energy resource since, "it will be less costly to the nation to save a barrel of oil per day of energy than to produce a new one". (P. 15.) Starting from that premise, the author proceeds to examine a particular conservation strategy: cogeneration, a process whereby electricity is produced as a by-product of industrial process steam. The benefit of cogeneration is that it requires only about half as much fuel to produce the same quantum of electricity generated by a conventional power plant. The potential savings nationwide could reach millions of barrels of oil per day.

Nevertheless, the author cites some formidable "institutional obstacles" to extensive implementation of cogeneration. One such obstacle is marketing the industrial producer's excess electricity. Sale of the electricity to public utilities has been impeded by the inability of the utilities to pay the industrial firms enough to provide those firms with a sufficient return on their investments. The utilities are limited in what they can pay because they are subject to federal regulations that make the prices they charge largely dependent on the amount of capital equipment they own, their replacement costs and other factors affecting the "rate-base" on which their return on investment is based. One solution suggested by the author, however, is that the utilities assume ownership of the cogeneration facilities, bringing the cost of the facilities into the rate-base and thereby providing economic incentives for production of electricity by the cogeneration process. Still, the article does not adequately confront the technical, political and economic aspects of implementing such a plan.

In the following chapter, a paper on industrial conservation, a consultant for the Dow Chemical Corporation emphasizes energy

conservation through replacement of buildings and energy-consuming equipment with more energy-efficient substitutes. While this may be a laudable suggestion, its fundamental incompatibility with the short-run realities of our society's industrial processes makes inclusion of this article in a book that attempts to address energy needs of the near future somewhat anomalous. The author does recognize the time-lag endemic to a conservation plan that relies primarily on replacement of inefficient equipment, but insists that retrofitting present equipment and developing new industrial technologies will eventually require less energy to produce the same end product.

Chapter four is a very brief interlude on Project Pacesetter, a project designed by Americans for Energy Independence to educate the public on energy and conservation issues. It is followed by a short but interesting piece in which the chairman of the board of Westland Energy Resource Development Corporation addresses the "Impact of Conservation on Low and Fixed-Income Americans." This chapter largely excerpts a report by Congress' Technology Assessment Board on the National Energy Plan proposed by the Carter Administration in 1977. The author complains that the Plan places the brunt of the economic burden on low and fixed-income persons, but offers no alternatives of his own to alleviate this burden. (Since the publication of these papers, the proposed Plan has been enacted into law with some modifications, and is now referred to as the National Energy Conservation Policy.[1])

In the next essay, "Economic Constraints on Federal Conservation Targets," a departmental director at the American Petroleum Institute takes issue with several popular assumptions that have shaped this country's energy policy to date: that energy conservation is needed, that the United States is wasteful in its use of energy and that we should be concerned about the supply of energy for future generations. To refute the allegation that Americans are wasteful, the author cites the productivity record of this country and the fact that "the United States produces about one-third of the world's GNP and uses about one-third of the world's energy." (P. 41.) The author adopts a skeptical view of the alleged need to conserve, arguing that: "Most of us expect posterity to be richer than we are. If so, we may ask, why should we shift consumption forward to them? Conserving for *their* benefit seems like a kind of

1. 42 U.S.C. §§ 8201-8278 (1978).

regressive tax on us, and we oppose regressive taxes." (P. 40.)

The final paper in Part II deals with the use of refuse as an energy source. This brief piece advocates the use of urban and agricultural wastes for the production of steam, hot water and electricity. Such refuse plants are currently operating in Europe and Asia, so presumably no additional research and/or development would be necessary. The author examines the potential impact of operating twelve plants in New York City; he estimates that those plants would help reduce New York City oil imports by 7.3 million barrels per year, a savings which might be increased to ten million if combined with cogeneration.

In Parts III and IV, the book shifts to a more technical approach. Part III focuses on coal, and Part IV contains five papers on nuclear power, three of which address specific technology proposals.

The first piece in Part III, "Expanding the Use of Coal," explores various methods of coal combustion that would encourage more widespread use of coal as an energy source. The author contends that the United States "forgot" how to burn oil on any level short of a large industrial scale. Consequently, the consumption of coal in this country has remained at a level first achieved in the early twentieth century, rather than expanding with the growth in energy demand. Probably the most prominent roadblock to greater utilization of coal resources is that much of existing industrial equipment is designed for oil or gas, rather than coal. Recognizing that this makes large-scale coal conversion unlikely in the near future, the author instead focuses on technology feasible for small-scale use, such as hot-water furnaces. From a broader perspective, however, the value of the author's recommendations appear marginal.

"Coal Production and Protection of the Environment," the next paper, is of general and fundamental interest. It addresses the dilemma of balancing our energy needs with reasonable efforts to protect the environment. The author, president of the National Coal Association, makes a number of telling points regarding the need for more widespread use of coal, though his objectivity obviously is suspect. He adopts, as his major premise, the notion that our utilization of the various energy resources generally should be commensurate with their relative availability. He observes, however, that our domestic oil supply, which currently represents only seven percent of our energy reserves, is used to generate three-fourths of our energy needs, while coal, which represents eighty

percent of domestic energy reserves, produces less than twenty percent of our energy requirements. The inescapable conclusion is that an increased use of coal reserves would appropriately relieve the drain on oil and other more limited resources.

More predictably, the author bemoans the legislative and bureaucratic demands of the federal government on the coal industry. He maintains, for instance, that while the industry is capable of doubling production by 1985, it is constrained on the consumption side by the Clean Air Act and on the production side by both the Coal Mine Health and Safety Act and the recent Surface Mining Reclamation Act. The new legislation and accompanying regulations, he asserts, sharply curtail the industry's ability to respond to the challenges now being faced.

Chapter ten, "Capitalization and Financing of Coal-Fired Generating Plants," contends that economies-of-scale in electricity production have not kept pace with inflation, that legislation has sharply reduced the number of locations available for production facilities, and that debt financing by utility companies is not sufficient to meet their capital requirements. The solution proposed is "rate relief"—not surprising in light of the author's employer, the American Electric Power Service Corporation.

"Development of Federal Coal Resources," written by a deputy solicitor at the Department of the Interior, is the final paper in this section. It more logically might have followed the chapter written by the president of the National Coal Association, in that both essays address the collage of issues raised by the interrelation of coal resources, environmental concerns and federal legislation. Nevertheless, this paper, emphasizing federal land mineral leasing, is one of the more informative and better documented discussions in the collection, referring to specific statutory provisions and even a federal judicial decision on environmental impact statements required for the evaluation of prospective coal leases.

Part IV of the book is entitled, "Uranium as a Source of Energy," but its first paper, "Electrical Power Needs of the 1980's," only discusses uranium peripherally. Instead, the article analyzes the anticipated demand for electricity in the future and the production capacity required to supply that demand. On the demand side, as gas and oil become scarce, the need for electrical energy as a substitute will necessarily soar, although conservation efforts may mitigate that trend to some extent. On the supply side, the author maintains that the only available large-scale technologies are fossil-

burning steam plants or light-water nuclear reactors. Those concerned about air quality discourage the fossil-fuel generating stations and favor solar or nuclear power, while those opposed to nuclear power generally urge the use of coal. Rather than siding with either camp, the author simply takes the "high road" by reemphasizing the increasing demand for energy and the need for conservation.

The remaining papers in Part IV address specific technology proposals for nuclear power generation (with the exception of chapter fourteen, "The Case for the Plutonium Breeder," a plea on behalf of nuclear reactors as an energy alternative). In contrast to most of the preceding papers, these presentations are relatively sophisticated and technologically detailed. Elaborate diagrams and equations, which assume a certain background or level of technical knowledge, are included.

Chapter thirteen, the first of the "technical" papers, discusses the varying operational aspects of different types of nuclear reactors. The essay appears to be an authoritative exposition, with extensive graphs and diagrams as well as technical descriptions, but is unlikely to be fully comprehensible to the average reader. In chapter fifteen, "Disposal of High-Level Nuclear Wastes," a University of Illinois geology professor analyzes the nature and magnitude of the nuclear waste problem and explores alternative methods for safe disposal. While the author believes we have the technology to dispose of nuclear waste safely, he is concerned that the choice of method to be used will be made for economic, social or political reasons rather than scientific ones. Chapter sixteen, a paper by Hans Bethe on fusion reactors, concludes Part IV.

Part V, the "conclusion" of the book, consists of a paper written by a consulting economist discussing the politics and economics of the energy problem on both a domestic and an international level. The paper, appropriately enough, ends with a challenge to the federal government to direct the nation toward a more secure energy future.

AMERICAN ENERGY CHOICES BEFORE THE YEAR 2000 represents a broad overview of realistic alternatives for energy production in the near future. Its direct and specific approach is valuable, and almost all of the contributors honestly confront the full range of issues plaguing the subject. Nonetheless, the book has a few shortcomings. For one, many of the articles are poorly documented. While it may be that some or even all of the papers presented at

the conference were not designed as research efforts, several authors tend to present facts and figures to support their views without adequately citing their sources. This practice detracts from the value of the book as a useful reference tool.

Second, while it is no doubt foolish to expect or demand a perfectly balanced symposium of ideas in this type of format, clearly some significant points of view are missing. Most notably, the book fails to address the environmental and safety factors which surround the development of nuclear power as an energy source—a lacunae that becomes even more glaring in light of the Three Mile Island incident that occurred following the book's publication.

Still, no one author could possess the wealth of expertise which is represented in this collection. The great diversity and detail offered by these compiled papers makes AMERICAN ENERGY CHOICES BEFORE THE YEAR 2000 a worthy addition to the expanding body of energy literature.

*Minda Schechter**

* Acting Professor, Loyola Law School; J.D. Stanford Law School; A.B. Biochemistry, Smith College; formerly Research Assistant to the Natural Resources Defense Council.

ENERGY AND NATURAL RESOURCES LAW: CASES AND MATERIALS. By William H. Rodgers, Jr. St. Paul: West Publishing Co., 1979. Pp. iii, 995. $22.95.

As law follows life in the creation of new areas of specialization, energy flow has now crystalized as a field of endeavor, synthesized from the previously disparate bodies of law relating to oil and gas, water rights, mining, and federal environmental and energy statutes. Just a few years ago, the suggestion of a casebook combining these barely related ingredients would have seemed bizarre, and "energy law" something to do with B.T.U.'s—no doubt more for physicists than lawyers. But today, such a volume, properly done, constitutes a much needed teaching tool for the present and future students of the field.

Arriving, like General Nathan Bedford Forrest, firstest with the mostest, William Rodgers has superbly filled the void with his new book, ENERGY AND NATURAL RESOURCES LAW. Professor Rodgers, already author of an excellent environmental law hornbook,[1] has now compiled a thorough and eclectic casebook that incorporates the more standard cases and notes in areas like riparian rights and nuisance with less traditional materials such as newspaper articles and Congressional committee reports discussing federal energy policy and regulation. The cumulative impact is extremely effective.

Part I of the book, encompassing the first three chapters, generally attempts to place the topic of energy law in its present factual perspective as well as review some of its legal underpinnings. The introductory chapter opens dramatically with a transcript of President Carter's televised address of April 18, 1977 outlining his initial energy proposals for the nation, and then supplements the speech with news articles and Congressional fact sheets. These items furnish a background to the recent energy crisis and, not so incidentally, a brief, sometimes satiric look at the bureaucracy fueled by it. In chapter two, the book adopts a more conventional casebook format, guiding the reader through nuisance, riparian rights, the public trust doctrine, the National Environmental Policy Act (NEPA),[2] and the taking issue. The well-known *Boone v.*

1. W. RODGERS, ENVIRONMENTAL LAW, West Publishing Co. Hornbook Series (1977).
2. 42 U.S.C. §§ 4321-4361 (1976).

Kingsbury[3] is used in conjunction with a more recent North Dakota case[4] to illustrate the public trust doctrine, a welcome departure from the verbose and turgid *Illinois Central*[5] decision. The discussion of taking employs *Pennsylvania Coal Co. v. Mahon*[6] as a springboard for a brief yet complete analysis of the issue in a few pages of notes. Chapter three uses the landmark *Scenic Hudson*[7] case to illustrate the scope of review of administrative decisions, and presents the procedural and substantive intricacies of NEPA.[8] Much of this ground, as with the public trust and taking decisions, will be familiar to the student who has already taken environmental law, but necessary for those who have not.

Part II, dealing with development and conservation, opens with a selection from Garrett Hardin's *The Tragedy of the Commons*, an eloquent plea for conservation and population control. A series of cases follows exploring the legal issues underlying oil field usage, mining rights and other energy problems. These cases, ranging from the *Midwest Oil* decision,[9] in which the Supreme Court upheld President Theodore Roosevelt's order withdrawing oil reserves from private lease or sale, to rulings on waste and strip-mining, provide a useful and imaginatively presented view of the general issues. Furthermore, they illuminate patterns of judicial, administrative and executive decision-making that transcend particular forms of energy. Some, however, such as *International Harvester Co. v. Ruckelshaus*,[10] are environmental law cases which might have been placed more profitably in the chapter in Part I dealing with review of administrative rulings.

Part III, the final and largest segment, focuses on each of the major sources of energy: water, coal, oil, gas and nuclear power. Professor Rodgers' format here requires the reader to go over some ground already covered in earlier chapters. Cases inserted previ-

3. 206 Cal. 148, 273 P. 797 (1928), *cert. denied sub nom.* Workman v. Boone, 280 U.S. 517 (1929).

4. United Plainsmen Ass'n. v. North Dakota State Water Conservation Comm'n., 247 N.W.2d 457 (N.D. S.Ct. 1976).

5. Illinois Central Railroad Co. v. Illinois, 146 U.S. 387 (1892).

6. 260 U.S. 393 (1922).

7. Scenic Hudson Preservation Conference v. Federal Power Comm'n., 354 F.2d 608 (2d Cir. 1965), *cert. denied sub nom.* Consolidated Edison Co. of N.Y. v. Scenic Hudson Preservation Conference, 384 U.S. 941 (1966).

8. *Supra*, n. 2.

9. United States v. Midwest Oil Co., 236 U.S. 459 (1915).

10. 478 F.2d 615 (D.C. Cir. 1973).

ously to examine more general issues are reemployed in the context of the form of energy involved. This repetition fixes some of the salient cases, such as *Scenic Hudson*[11] and *Vermont Yankee*,[12] more firmly in the reader's mind, and strengthens the connection between the broad principles of judicial review and the specific factual contexts to which those principles apply.

The materials relating to particular energy sources reveal, interestingly enough, that the energy and environmental prospects which we are now confronting are not entirely new concerns for modern man. For instance, Edward I, the king who conquered Wales and began the tradition of naming his eldest son prince of that realm, ordered "all but smiths to eschew the obnoxious material (coal) and return to the fuel they used of old."[13] Not surprisingly, that decree suffered the same fate as more modern attempts to turn back the technological clock. And, in a recent decision dismissing a nuisance action seeking to bar an oil refinery from scenic Jamestown, R. I., the court quoted from an 1874 English opinion:

> If some picturesque haven opens its arms to invite the commerce of the world, it is not for this court to forbid the embrace, although the fruit of it should be the sights, and sounds, and smells of a common seaport and shipbuilding town, which would drive the Dryads and their masters from their ancient solitudes.[14]

No discussion of energy law would be complete without a look at the economic considerations which motivate so many energy decisions—salt in the stew, or flour, depending on the reader's perspective. In this area, Professor Rodgers offers cases and notes on the subjects of energy demand, the "economic waste" caused by inferior use of natural gas, and the marginal cost pricing of electricity.

ENERGY AND NATURAL RESOURCES LAW contains a comprehensive treatment of almost every phase of the energy law spectrum. Yet, it may be well-nigh impossible to produce a casebook in this dynamic, rapidly expanding field that would be both all-inclusive

11. *Supra*, n.7.

12. Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc., 435 U.S. 519 (1978).

13. P. 537, *quoting* B. MEYER, SULFUR, ENERGY AND ENVIRONMENT (1977).

14. P. 679, *quoting* Salvin v. North Brancepeth Coal Co., L.R. 9 Ch. App. 705, 709 (1874), *as cited in* Commerce Oil Refining Corp. v. Miner, 281 F.2d 465, 473 (1st Cir. 1960).

and up-to-date. This volume reflects, to some degree, those inherent drawbacks. The author makes no attempt to reach, for example, the topic of importation of liquified natural gas and its serious environmental and safety risks. Some court decisions included in the book, such as *Union Oil Co. of California v. Morton*[15] (restricting the authority of the Secretary of Interior to suspend an offshore oil lease following the Santa Barbara blowout), have already been effectively overruled by Congressional action. Professor Rodgers, whose preface recognizes the changes constantly evolving in this field,[16] should be, and doubtless is, considering annual or biennial supplements to update his work.

Energy law will plainly prove to be a lasting subject in legal education and specialization for lawyers, merging several narrower areas of expertise. In this successful mixing of oil and water, Professor Rodgers has once again furnished a thoughtful and sophisticated book at the very frontier of public law.

*Philip Weinberg**

15. 512 F.2d 743 (9th Cir. 1975).
16. Pp. xvii.

* Associate Professor, St. John's University School of Law; from 1970 to 1978, headed the Environmental Protection Bureau in the New York State Attorney General's Office.