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## Access to Energy 2000 and After

Peter Blodgett

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## BOOK REVIEW

ACCESS TO ENERGY, 2000 AND AFTER. By Melvin A. Conant

University Press of Kentucky; 1979 Pp. 130.

*Reviewed by Peter Blodgett.\**

As the year 2000 approaches, increasing attention will be focused upon the equitable sharing of limited natural resources. The availability of energy resources for the United States will be of primary concern in both foreign and domestic policy for the next twenty years. *Access to Energy, 2000 and After* by Melvin A. Conant (University Press of Kentucky, © 1979) provides a brief but impressive overview on this matter.

The information available in this concise volume is presented in a tight analytical framework. An introduction explains the author's intentions and defines the scope of the book:

Oil is featured in this volume because of its prominence among the primary energy fuels. . . . It is emphasized also because the history of the rise of international oil to its present position of importance offers insight into both current access and other energy commodities of potential significance.<sup>1</sup>

Chapter one, "The Nature of the Crisis: Energy Supply/Demand, 1977-2000" presents a short, helpful, and perceptive analy-

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\* Mr. Blodgett teaches at Thetford Academy, Thetford, Vermont, and is active in alternative energy research. He has recently received a fellowship from the Department of Energy to study Energy Law.

<sup>1</sup> M. Conant, *Access to Energy* 1 (1974).

sis of the current state of access to energy sources with a review of the historical growth of world energy consumption. The chapter deals with the world energy situation beyond 1977, with the author concluding: "The world could face a severe energy crisis in the 1980's as world oil demand rises to between 67 and 73 million barrels per day by 1985 (given the improved general economic growth rate which is the precondition to social progress)."<sup>2</sup> With such increasing consumption the nations of the world will soon be competing for limited supplies. Conant warns, "As the current surplus of world oil recedes, the race to sell or barter arms and/or industrial technology (including nuclear) for guaranteed access to energy supplies will grow with potentially disastrous consequences for the stability of the world."<sup>3</sup>

The role of energy resources and policy could well revise the geopolitical arena of the world. Conant goes on to list nine major potential changes which in twenty years could drastically change the relations of nations everywhere. He reminds us that:

A wishful policy based on the expectation of an oil price break or on vast new additions from hypothetical reserves is both dangerous and irresponsible. Unless this is understood, the critical issues of access to energy during the remainder of the twentieth century cannot be fully appreciated and will certainly not be met in a timely manner.<sup>4</sup>

The final section of this chapter deals with the specific energy needs of the United States, Europe, and Japan. This analysis is instructive, particularly as it makes clear that no nation lives in an energy bubble of its own, so that each nation must carefully consider its actions and the potential tensions and conflicts self-serving initiatives may produce among allies and neighboring states.

Chapter two, "The Concession System and the Oil Host Governments" instructs the reader on the history of international oil. The race for exploration; the relations between oil companies and the colonial powers during the first half of this century; the concession system paid by the companies to the colonial states; the emerging new nations and their relations with the oil companies; the historic background of OPEC; the emergence of OPEC; the emerging significance of Mexico, Venezuela, Iran, Iraq and other

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<sup>2</sup> *Id.* at 11.

<sup>3</sup> *Id.* at 13.

<sup>4</sup> *Id.* at 16.

oil producing states are all matters handled with sensitivity by the author. This chapter is an excellent primer for any one interested in the causes of the tension in the Mid-East. In addition, the notes of this chapter serve as a good introduction to a number of more comprehensive texts dealing with the role of oil around the world. The chapter is concise. For the thoughtful analyst it provides a very good overview of the reasons for the contemporary situation.

In the third chapter, "The Challenge of Change: The Oil Importer and Oil Exporter Response," Conant describes the effects of the OPEC Oil Embargo of 1973-74. The author analyses some of the political consequences that emerged from the OPEC embargo:

The unwillingness of the developed world to respond to the demands of the New International Economic Order (NIEO) led to a growing series of confrontations between the LDC's (less developed countries) and the industrialized world . . . ."<sup>5</sup>

. . . .

Prior to the meeting, the LDC demands might have been debated in the context of the negotiations about such matters as oil payments and debt transfers, but afterwards, the North-South conflict turned into questions of principle and ideology. It was no longer a conflict about oil and oil prices but a conflict between two seemingly irreconcilable conceptions of what constitutes a just economic order.<sup>6</sup>

Conant concludes this chapter with a stern warning that all countries must appreciate their mutual dependence, or else a competition for oil may prompt governments into using force to protect "vital interests." He stresses that such competition could destroy NATO and the Common Market.

"The Future of the International Oil Industry" details the pressures between oil producing states and the international oil companies. Although the producing governments have significantly increased their presence in all aspects of oil policy (their emergence in less than a decade through OPEC took not only the oil companies by surprise), the role of the companies is assured, Conant states, because of their indispensable worldwide logistics, which offer an efficient supply of oil to world trade. Although governments control the oil, the companies provide the means to get

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<sup>5</sup> *Id.* at 60.

<sup>6</sup> *Id.* at 63.

the oil to market.

In four short chapters Conant presents an instructive view of oil and its continuing significance on both domestic and foreign policy. The remaining two chapters of his book, contributed by different authors, look at nuclear energy and energy from the ocean.

"Nuclear Energy: To 2000 And Beyond," written by Charles K. Ebinger, fits well into this book on energy access. There are six issues that Ebinger feels have hindered the development of nuclear power: 1) increased construction cost of plants and of fuel; 2) limited supplies of nuclear fuel; 3) the health and environmental hazards of nuclear waste storage and the advent of a plutonium economy; 4) the safety record of nuclear versus other alternatives, especially coal; 5) the growth of nuclear power and the potential of nuclear weapons proliferation; and 6) the dangers of terrorist sabotage.<sup>7</sup> He states: "It is of paramount importance to note that the resolution of these nuclear issues during the remainder of the decade will vitally affect the geopolitics of energy well into the next century."<sup>8</sup>

Ebinger's chapter discusses several aspects of the nuclear energy controversy, including nuclear energy and nuclear weapons, the geopolitics of nuclear energy, nuclear access and proliferation, the breeder reactor, uranium reserves and resources, and the nuclear future. Just a few of the interesting points the author notes are that the world community will not allow the United States to make critical decisions affecting access to world energy supplies (for example the breeder reaction decision by the Carter Administration); the continuing emerging trends of multilateral deals for fuel cycle technology and uranium; growing conflict over access to uranium; an increasing waste storage problem; increasing risks for accidents and terrorism; and further proliferation of nuclear weapons. Ebinger argues forcibly for the rapid expansion of nuclear power as a necessary mechanism which will help usher in the era of energy abundance from hydrogen, solar and fusion power.

"Ocean Frontiers of Energy" is written by Christa G. Conant. Her review of efforts to exploit the energies of the ocean adopts a longer range perspective. Most of the ideas for energy production

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<sup>7</sup> *Id.* at 86.

<sup>8</sup> *Id.* at 88.

from the sea will require years of lead time before their effective implementation. These ideas include ocean thermal energy conversion; OTEC, wind, wave, current, and tidal power; kelp production as a source for methane; and ocean geothermal energy. Her list is not exhaustive. Some of the problems she foresees with such power plants are perceptible. Beyond the 200 mile boundary international companies might fly the flag of a nation whose environmental standards are low and thus increase profit margins at the cost of the ocean life. Submarines may "hide" themselves beneath OTEC plants. These power plants might be used for intelligence gathering purposes. Ocean power plants could well become major navigational risks. This chapter informs the reader and clarifies some of the sensitive issues of ocean policy. The author advocates that nations begin now to resolve such issues before they exist and to approach the sea as an international resource.

After this chapter Melvin Conant concludes his work with forceful clarity. He warns that when vital resources become scarce, historically force has been used by one country to insure its access to the resources of another. He feels that: "Some form of international device or process is needed to deal with the complex issues of 'need,' 'value,' 'development,' and 'access' to the world's high-priority commodities, a process that must involve equally both producing nations and importing nations."<sup>9</sup>

In his final paragraph Conant writes:

As the greatest single consumer and the world's largest producer of energy, the United States will have to play a leading role in fashioning such an arrangement. Yet this would not be an exclusive role . . . . The essence of these efforts is that the inherent differences of interest in access to energy commodities be resolved before they spin out of control; the object: peace in our time, and for generations to come.<sup>10</sup>

This is a book to be read by anyone concerned with the next twenty plus years of American energy policy. The times to come pose a major challenge requiring basic shifts of perspective away from those attitudes which dominated the 1960's and 1970's. Energy will never be inexpensive again. The impact of energy and access to energy sources is behind much of the political activity of the past year. The current tension between the United States and

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<sup>9</sup> *Id.* at 121.

<sup>10</sup> *Id.*

the Soviet Union over the Persian Gulf is an ominous substantiation of the claims made by Conant in this book.

The book works at its best as an introduction and overview of the next twenty-five years of the petroleum age. The consequences for various policy actions are made clear and usually undesirable. The author is trying to convince his audience that now is the time to begin the domestic policy necessary to alleviate the ever-continuing rise in oil demand.

The idea mentioned in the introduction and conclusion for a means of handling high-priority commodities equitably within a forum of all nations deserves consideration, and should be developed aggressively by the United Nations. Unfortunately, the fervor of nationalism and other national interests may impede the emergence of such a mechanism. Conant's appeal for a global community sharing its resources fairly may seem too idealistic, but is there really any other rational alternative?

A shortcoming of this book that discusses policy attitudes and practices is its unwillingness to look beyond the western economic model, which insists on growth and consequently upon ever-increasing energy consumption. Both Conant and Ebinger feel that social progress is dependent upon growth. In their opinion, not to grow could lead to catastrophic consequences.

There are two major attitudes prevalent in most current discussions of energy policy. This book argues that consumption rates will only increase, so policy must be made to insure adequate supply. There is another viewpoint, however, that is only mentioned in passing and is dismissed as irrelevant. This is the viewpoint of those arguing for a decentralized alternative energy policy that seeks to stabilize or reduce current energy consumption through conservation efforts and local alternative energy sources. This position supports the economic concepts espoused by E. F. Schumaker in *Small is Beautiful* and the "soft energy" path advocated by Amory Lovins in *Soft Energy Paths*.

While Conant's analysis of oil policy presented in this book is informative and instructive, it is really a narrow treatment of policy options because he refuses even to consider the policy consequences of a steady-state or no-growth economy. In any discussion of energy policy for the coming quarter-century it seems odd and deficient that one of the major policy viewpoints is completely ignored. Conant possibly feels that alternative energy sources will not be able to come on line in significant amounts

within the coming twenty-five years.

Several examples challenge his attitude. The state of Vermont has noticed a rapid switch by homeowners from oil heat to heating with wood. In 1978-79 over three quarters of the households in Vermont were using wood for at least some of their space heating requirements.<sup>11</sup> Demand for oil during the 1979-80 heating season dropped 15-20 percent, forcing some suppliers out of business. Such a reduction in oil consumption on a state-wide level argues that relatively minor changes could reduce oil demand effectively well within this century.

Another example is that SRI International, an independent California laboratory, has found a means to produce pure silicon in a one step process that reduces the cost of silicon from \$60.00 a Kilogram to about \$5.00 a Kilogram.<sup>12</sup> This reduction in cost suddenly changes all economic forecasts for the viability of cost efficient solar energy cells.

A final example is a new thermal battery for storing heat from solar energy or other sources. Developed by Dow Chemical Company and Pipe Systems, Inc. of St. Louis, the batteries are called Thermol 81 Energy Storage Rods. One hundred rods would be enough to supply ample storage for a solar heating system in an average size house. The rods will retail at about \$30 each and be warranted for ten years. Thus a storage system would cost \$3,000 and fit in a cabinet the size of a refrigerator.<sup>13</sup>

Ebinger, while recognizing the difficulties inherent with nuclear power, still insists that this source of power be rapidly expanded. He dismisses massive conservation and efforts to slow economic development as "unacceptable and unpersuasive to most nations."<sup>14</sup> He also asks the alternative energy advocates what slowed economic growth would mean to the economically marginal elements of the world's population.

To dismiss the advocates of the "soft energy" path with this question is irrational. One might ask Mr. Ebinger how the economically marginal element of the world's population is going to afford nuclear-generated electricity with its construction works in progress fees, its replacement power costs (when the plant is re-

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<sup>11</sup> Statistics from Vermont State Energy Office.

<sup>12</sup> QUEST/80, Jan., 1980, at 8.

<sup>13</sup> Stepler, *Solar Salts—New Chemical Systems Store the Sun's Heat*, POPULAR SCIENCE MONTHLY, March, 1980, at 49-50.

<sup>14</sup> Conant at 100.

fueling), and the decommissioning costs of nuclear plants. Since it is doubtful that these marginal populations can even afford nuclear-generated electricity, a very refined and no longer inexpensive energy source, why is Mr. Ebinger advocating expansion of nuclear plants? The advocates of alternative energy could argue quite plausibly that a slowdown in economic development with a subsequent reduction in petrodollar levels and a reduction in the nuclear arms race could provide funds that might then be able to provide the world's marginal populations with more food, clothing, and shelter, which is needed far more than electricity.

A book striving to present an analysis on access to energy can perhaps simply follow the fossil fuels route and not examine other alternatives. But when a book looks at energy from the ocean, then it is looking at alternative energies and had better be prepared to deal with the policy prospective of the "soft energy" advocates.

Conant's book is instructive as far as it goes. It provides a good perspective on the geopolitics of oil. It presents the reader with a decent set of facts on nuclear energy. However, any work on energy policy that does not attempt to address the alternative energy policy is less than one half of what it should be.