

Vermont Environmental Report

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Richard Brett reviews Barry Commoner:

SERIES ON ENERGY

The Vermont Environmental Report is pleased to be able to print here a review of the Barry Commoner series on "ENERGY" in the *New Yorker Magazine*, written by Richard M. Brett of Woodstock.

Richard Brett is a conservationist who needs little introduction in Vermont. He is a graduate of Williams College. He holds an M.S. degree in Ecology from Yale University. He was a Trustee of the Conservation Society of Southern Vermont and was the first Chairman of the Vermont Natural Resources Council. Mr. Brett will soon be honored with the 1975 Annual Governor's Award from the Conservation Society of Southern Vermont. Governor Salmon will present that award in mid-April. The Conservation Society award is made each year to "that person or organization that is judged to have made an outstanding contribution toward the preservation of Vermont's environmental quality."

The *New Yorker* series by Barry Commoner on "ENERGY" will be brought out in May, 1976 in book form by Alfred Knopf under the title of *The Poverty of Power*.

The *New Yorker Magazine*, starting with the February 2nd issue, has published a three-part series on "Energy" in its ongoing department entitled, "A Reporter At Large." In this instance, the reporter is Barry Commoner.

Like real estate gems, this series must be seen to be appreciated. It is a cogent, detailed, lengthy discussion of why the economy of the United States is the way it is.

The clue to Commoner's thinking on energy lies in his detailed analysis of the first and second laws of thermodynamics. This is the First Law of Thermodynamics: that energy can neither be created nor destroyed. And this is the Second,

the notion that over time, there is in the universe, a shift from order to disorder, from organization to disorganization. Thus a barn, or a mountain, or a stick of wood is, over time, continuously decaying.

What Commoner is pointing to here is a lesson that is both simple and powerful. We have become obsessed, argues Commoner, with the First Law of Thermodynamics, with measuring and counting our stocks of coal and barrels of oil. And we have forgotten the Second Law, the tendency of things to shift from order to disorder. We have forgotten to concentrate our attentions on the available work that can be obtained from a quantity of energy. We are not losing stores of

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energy in burning petroleum; the First Law tells us that. We are simply making that energy inaccessible to us. So the question becomes: "How can we use energy more intelligently, more efficiently, and maximize the amount of work that we get out of a given quantity of energy?"

In the recent past our most important energy source has been petroleum, the biggest share being used for transport. Commoner points out, in considerable detail, that we have made a whole series of errors in connection with the use of energy.

One example is the railroads which are the most efficient method of moving people and goods. Industry, however, with political backing, has deliberately destroyed the railroads in favor of the private car, buses, trucks and planes -- all inefficient energy users, and all publicly subsidized.

"Railroads are the most efficient method of moving people and goods."

Commoner indicates that power from coal and from solar energy in its various forms has many advantages over petroleum. He describes nuclear power as a danger to all mankind because of nuclear blackmail: radiation problems; waste disposal; and high capital costs. The long term and short term difficulty of storing nuclear waste is unsolved and represents a threat to human survival. And yet, both industry and government have neglected alternate power sources, except for an unthinking push for nuclear.

Commoner goes into some detail about petroleum reserves. There appears to be general agreement that there is enough petroleum left to enable the industrial nations to make a rational and planned change-over from petroleum to alternative sources of power, always excepting nuclear as being too expensive and too dangerous. The tools to accomplish this task lie in energy conservation; in matching the use to the source; and in developing many other power sources.

Commoner points out that government insistence on nuclear power development and on the continued use of private cars instead of mass transportation has resulted in a waste of fuel; in a waste of capital; and in a heavy cost for pollution. He points out that the industrial use of public air, soil, and water as a free dump for wastes has resulted in many new health problems, stemming directly from a lowering of the quality of the human habitat.

The villain of the piece is "the maximization of profit." Here are some examples. Industry refrained from searching for domestic oil because there was a greater profit in foreign oil. Industry destroyed the trolley system and the railroads to further the sale of trucks and buses with the huge and expensive highway system as an added subsidy for the automotive industry.

While Commoner does not put it quite this way, I think that he is saying that man is an imperfect creature, prone to error, and that the probability of nuclear accident, somewhere, sometime, increases as the number of plants proliferate. Of course, in addition to the man-made hazards, there are natural hazards such as earthquake.

As a general rule, industrial decisions are based on the largest possible profits in the shortest possible time. Such decisions are seldom made with social benefit as the criterion. It is rare that an industrial decision is made from the premise that it is the right thing to do. With a huge investment in plant, industry frowns on beneficial change which might cut profits. Thus industry is sticking with petroleum and nuclear power even though solar power is available, free and non-polluting. If solar energy were to be matched with its appropriate work such as space heating or water heating it could be immediately available with less engineering problems than attempts to utilize the atom. Be that as it may, an unholy alliance of government and industry is allotting maximum funds to nuclear power and minimum funds to alternate power sources.

A good way to save energy is to match the use with the source. Another way is to avoid huge industrial complexes which have a high capital and energy demand with a low labor use. These complexes are huge, technically intricate, and demanding of power both for fabrication and transport of supplies and products, because they are centralized.

Once again, the "maximization of profit" results in social loss and waste of both capital

and energy. If the machine reduces man-hours, it may contribute to unemployment. It seems odd that industry has consistently increased its outlay of capital for machines to replace workers without wondering where the customers are going to come from. A man out of work is a poor consumer and a poor customer. Industry has cut the number of jobs and the number of customers with one "swell foop," so to speak.

In destroying the intercity trolley and the railroad, industry has moved away from the creation of a better human habitat. Highways waste valuable land. They are costly to build and maintain. Buses and trucks create both traffic jams and smog, which in turn, cause many human ills and may, someday, affect the climate in unpredictable ways. These decisions have been made for profit and not for the welfare of man. In addition, these troubles appear to be peculiarly "American" because many foreign mass transport systems are in good health.

The same sort of short range decisions have substituted synthetic for natural fibers. Other synthetic materials have supplanted natural substances because the synthetics, while costly in

terms of energy and capital, are cheap in terms of labor. The natural fibers and substances — cotton, wool, leather, fats, and so on — are the opposite. They treat energy and capital lightly, but do create jobs.

In his concluding remarks, Commoner seems to be saying this: that as a general rule, industry has favored its own profit over concern for man. This preoccupation with profit has had the following damaging results. It has made capital less productive and more expensive. It has increased unemployment. It has lowered the number of customers who can afford to buy the products that industry makes. In the process, industry has used the public air, soil and water as a free dump for waste; it has lowered the over-all quality of human life; and it has increased the economic distance between rich and poor.

Commoner's final remark is that we must examine our use of technology and change our approach so that we can invent a rational way to match the ecosystem, capital and energy for the universal comfort of man over the longest possible period of time.

FORREST ORR DISCUSSES: Energy Conservation

"The fate of government," says Forrest Orr, talking about energy conservation, his voice heavy with sad experience, "is to react, and not to act." Orr is concerned, frustrated. As Director of the Vermont State Energy Office, he is the man most responsible for coping with Vermont's energy problems.

"We started from ground level," says Orr, remembering the beginnings of the State Energy Office at the time of the Arab Oil Embargo, what is now simply called, the "winter of discontent." "We didn't know anything: how many filling stations there were; who were the dealers; what were the prices; anything."

Orr is the first to admit that the signs of an impending crisis were all there long before the embargo struck. The signs were there, obvious to any perceptive observer, but government was somehow incapable of taking action in advance of the emergency. As an Environmental Planner,

Orr had begun to discern the early signs of the coming crisis, in bits and pieces of the materials that crossed his desk, from 1969 onwards. Yet no-one took action. With gasoline selling, even as late as 1972 and 1973, for 35 cents a gallon, who would have listened anyway?

If the situation is different today, it is different because we are no longer trying to sense the future from signs; we have the information.

We know, for example, that we can pretty well handle the kind of shortages that developed in the fall and winter of 1973-1974. The "winter of discontent" demonstrated our ability to cope with that scale of shortage. Another embargo and the return of shortages at the level of the fall and winter of 73-74 isn't what worries Forrest Orr as he sits behind his desk on the third floor of the State Personnel Building in Montpelier. What worries him is this. He feels that the public doesn't know, or hasn't yet grasped, or is unwilling to

Forrest Orr...

grasp the fact that we are much more vulnerable today than we were in the winter of 73-74. We are more vulnerable today because we are importing more oil. Nationally, about 44% of the oil we use we import. Back in 73-74, 14% of that imported oil came from the Arab states. Now that figure has climbed to 23%. And surviving that kind of shortfall would cause real economic hardships.

"We are much more vulnerable today than in the winter of 1973-74."

But how do you reach the citizen in the street? This is a question that Orr says is confounding the experts nationally. How do you reach the disbelieving citizen with the message of energy conservation; how do you impress upon him the fact that four out of ten of the gallons that he is pumping into his car are imported oil?

"The public will only live with an issue for just so long," Orr observes. Part of the problem is the public's willingness to reject distasteful facts. After all, the gas is available; it may be more expensive at the pump, but it is there. Part of the problem is the nature of politics, and as Orr remarks knowingly, "1976 is an election year." Orr has words of praise for Governor Salmon, his boss. "He has leveled with the people," says Orr. "He has never tried to mislead people that the cost of energy is going up."

Orr is less charitable, however, about the vacuum of national leadership on energy-related matters. He reserves his harshest rebuke for ex-President Nixon who told Americans at the end of the Arab Oil Embargo that the "back of the problem had been broken." If people on the street are unwilling to demand action, to insist on the need for energy conservation, Orr can sympathize, since they have been poorly led.

Looking out on the situation in Vermont, Orr can point to the following energy conservation measures.

He is pleased with the oil recycling program that is getting underway in Chittenden County. In the Burlington area, the Vermont Petroleum Association and the Vermont Agency of Environmental Conservation have joined forces to create

a non-profit corporation called "Recycle, Inc." Recycle, Inc. will collect, store, and reprocess used crankcase oil that used to be dumped or lost. Now it will be "rerefined" and turned into low grade fuel oil, or used as an industrial lubricant, or put to use in the manufacture of asphalt.

Orr is also happy with the effort of Vermont utilities in "base-load management." In this field, according to Orr, the Vermont utility companies "have led the rest of the New England States" in introducing devices to save energy, or to encourage the use of off-peak power.

Of all the efforts that have been set in motion to date, none is more critical, in Orr's judgement, than the low-income winterization program. Here is a program that operates out of Community Action agencies throughout the state. Orr recognizes the special character of this need and the large number of people in Vermont who fall into a low-income category. These are the people who are most cruelly-struck by the rise of energy costs.

Orr wants this program expanded. He wants an effort to address the needs of middle-income people. The State Energy Office has come up with figures that indicate that 60% of Vermont's housing was constructed before 1939. This is significant, because the insulation industry came along only after World War II. Orr insists on the need for at least 11 inches of insulation as an adequate sheathing between indoor warmth and outdoor cold. If 60% of the state's homes are inadequately insulated then there is a big job to be done, a capital investment that Orr figures will amount to between \$500 and \$1,000 for individual homes. In Orr's view, this job isn't going to get done without incentives and he is calling for a federal income tax credit, and a federally-guaranteed loan program.

As for the rest of the initiatives that could be set in motion, a truly convincing energy conservation program, that task is one of monumental proportions. Orr is aware of the proposals that are being made. There is the bill of Rep. Charles Stone that would place a sliding registration tax on automobiles on the basis of weight. The State Energy Office has already completed a profile of passenger cars in Vermont. No other state has done this. There are proposals to put a tax on excess packaging. There is talk about the need to site our schools, hospitals, shopping centers, and other institutions, where people are, instead of at a distance, accessible only by relying on private transportation. There is the ever-present problem of commuting: people living in one place, working in another, and travelling, always at a cost to resources, in between.

Orr is not denying the existence of these problems, or the need to take action, but his resources are limited, and he feels powerless to offer all the solutions from his Office.

Looking at just one item on the list, the tremendous growth of shopping centers outside of cities and towns across the state, looking at this boom in recent years Orr expresses regret. "It is frustrating," he remarks, "to see shopping centers being built." Orr is surprised to see these projects getting built, surprised at the lack of opposition from businesspeople in downtown districts. In the past few years the boom in shopping centers has been real: outside St. Johnsbury, outside Brattleboro, outside Rutland, Hardwick, Middlebury, Northfield, and other towns and cities, literally millions of investment dollars devoted to building commercial centers not where people are, but outside of town, inaccessible to people on foot, and amounting in total to a massive commitment to the use of private automobiles and energy waste. The same thing has happened with regional schools. They have been built. Most often, like shopping centers, they have been placed in the countryside and constitute in sum a massive commitment to busing and the expense of busing.

"We have asked the Education Department to build schools where people are," says Orr. As for shopping centers, Orr cites the continual

confrontation that exists between local and state government, and the year-by-year defeat in the Legislature of all attempts at a land-use plan, or land-use legislation.

Looking at the record of this year's Legislative Session, Orr gives the lawmakers a decidedly mixed review. They did come up with a bill that permits municipalities throughout the state to give a tax reduction to people who are employing energy-saving devices, a modest, but still, Orr feels, an important step. They did not act, however, on the legislation that Orr most wanted, H. 407, a bill to establish a State Department of Energy with full responsibility for energy planning, management, and the development of alternative sources of power. Orr is running the entire State Energy Office with five people and a budget of something like \$100,000 a year. This isn't enough to do the job, and H. 407, that died in the Senate Energy Committee, was the essential step.

It is hard to be an optimist when looking at energy problems. The problems are daunting enough in themselves. Add to these problems, the political situation, and the general public mood of disbelief. Orr sees a need for decisive action on several fronts, local, state and national. He is realistic enough to know that action will have to wait on public understanding and public pressure. Says Orr: "A decision cannot be imposed upon the public that the public doesn't want."

1976 GENERAL ASSEMBLY: POST-MORTEM

The 1976 General Assembly, just a few weeks after its final adjournment, has become a very old memory.

The gains on the environmental side, few as they were, are easily registered.

Passed was: (H. 414) a bill that establishes a Ten Year State Transportation Plan. According to Rep. John Zampieri the importance of this bill is that it states unequivocally the intention of the State of Vermont to finish its present road construction program, but not to construct in the future any other four-lane highways.

Passed was: (H. 476) a bill that establishes an Agricultural Development Commission. Supporters of this measure believe that such a Commission will provide needed coordination and

leadership in promoting agriculture in Vermont. The Commission's purpose is to bring together the efforts of such groups as the Department of Agriculture, the Extension Service, and the Farm Bureau. The Commission has a limited life of five years, and it will report to the Legislature on the 15th of January of every year.

Passed was: (H. 206) a bill sponsored in the Vermont House by Rep. Randall Niquette, similar to a bill that was sponsored in the Senate by Sen. William Doyle. This bill permits towns and municipalities to appoint a volunteer "Energy Co-ordinator" to organize conservation measures and to develop sources of energy at a local level. This bill also permits towns to reduce property taxes on homes that have installed energy-saving devices.

1976 SESSION...

Passed was: (H. 436) a bill that provides for the equal treatment of mobile homes and other types of homes. Some legislators expressed satisfaction with this bill because it erases the discrimination that has existed against mobile homes in the past; other legislators contended that H. 436 will undermine local town zoning and planning machinery and play into the hands of mobile home lobbyists.

The 1976 Assembly was the second year of a two-year Session. Bills that failed to pass, or were lodged in Committee at the time of adjournment, all these bills are now dead. To be resurrected, they must be written again, and introduced again at a new Session.

These efforts then, stalled, or failed, and ultimately died.

1. A Land-Use Planning Bill
2. A Ban on Phosphate Detergents
3. A Ban on Aerosol Containers with Fluorocarbons
4. A Bill to Promote Waste Utilization
5. A Bill to Establish a State Department of Energy
6. A Measure to Create A Register of Natural Areas
7. A Law to Protect the Integrity of Scenic Roads
8. A Measure to Provide for More Equitable Taxation of Farm and Forest Lands
9. A Bill to Put a Sliding Registration Tax on Automobiles on the Basis of Weight
10. A Law to Provide that Lobbying Expenses of Utility Companies be Paid by Stockholders and not by Consumers
11. A Tax Plan to Raise Revenue to Finance Recycling Centers

These resolutions also died.

1. (JRH 54) A Resolution Calling for an Investigation of the Shutdown of Vermont Yankee
2. (JRS 36) A Resolution Calling for an Investigation of the Vermont Public Service Board

In seeking to understand the fate of environmental bills in the Session just past, the VERMONT ENVIRONMENTAL REPORT talked to two men who had lobbied actively for environmental legislation.

Whitey Bluestein, Executive Director of VPIRG, told us his view of what happened to one key piece of legislation, a bill to ban fluorocarbon aerosol containers. The aerosol ban passed the House by an overwhelming vote. According to Bluestein, the key element in stalling, therefore in killing, the aerosol bill was the presence of four lobbyists from the Dupont Corporation. These lobbyists made the Senate Natural Resources Committee their target, and as Bluestein said, "They sweet-talked the Senate Natural Resources Committee into not acting." Summing up the total Session, Bluestein said: "The Session was marked by no progress on the environmental front." Bluestein ticked off important measures that died: the ban on aerosols; the ban on phosphate detergents; and the effort to strike the inclusion of Highway I-93 from the Ten Year State Transportation Plan.

David Goldberg, who lobbied for Vermont Tomorrow/Legislative Action (VTLA), had a similar appreciation of the Session. He looked at the monied private interest groups. He looked at the struggling efforts of public interest groups. "There is no equality in effort," said Goldberg. "The total budget of VTLA is equal to the salary of just one private interest lobbyist for one month." What this says to Goldberg is that the public interest lobby groups need and deserve greater citizen support. Goldberg would like to see more people running for the Legislature. Voting and paying taxes is not enough. During the 1976 Session some 80 people around the state received the VTLA weekly legislative alert. Goldberg wants to double that effort next year, and double that effort the year after that. He thinks that people misunderstand the work of public interest groups. "We can do a good job," he explains, "on three to five bills." So there is in actuality very little, if any, overlap between public interest groups. "Pick your favorite lobbying group," he says enthusiastically, "and start helping them."

BICYCLES

A group of citizens, calling itself the "Barre-Berlin-Montpelier Bikeway Coalition" is putting together the pieces of a grant application for \$172,722 from the U. S. Department of Transportation that would build a 9.4 mile bicycle route along an abandoned railway bed between Barre and

THESE TWO PUBLICATIONS ARE AVAILABLE FROM VNRC UPON REQUEST: (1) A BOOKLET ENTITLED HOME ENERGY CONSERVATION, PUBLISHED BY THE VERMONT PUBLIC SERVICE BOARD. THIS BOOKLET DISCUSSES "SITING" AND "BUILDING" AND SUCH TOPICS AS THE INFLUENCE OF THE SUN AND WIND, EXPOSURE, TREES AND SHRUBS. (2) A SECOND BOOKLET ALSO AVAILABLE FROM THE COUNCIL FREE IS A 16-PAGE PUBLICATION FROM THE NATIONAL WILDLIFE FEDERATION, ENTITLED "76 EQ (ENVIRONMENTAL QUALITY) INDEX." THE EQ INDEX REVIEWS THE NATIONAL EFFORT TO CURB ENVIRONMENTAL DEGRADATION AND DISCUSSES THESE SUBJECTS: WILDLIFE, AIR QUALITY, MINERALS, SOIL QUALITY, TIMBER RESOURCES, WATER, AND THE PRESSURE OF PEOPLE ON LIVING SPACE.

Montpelier. At the present time the Barre-Montpelier Road is a heavily-travelled highway corridor. If the plan to build a bicycle route succeeds it would open up a safe recreation and fair-weather transportation alternative. The grant application for federal funds has several hurdles to pass: it must gain the official endorsement of the Central Vermont Regional Planning Commission; it must be recommended by the three area towns; and it must then survive the national competition in Washington D. C. for a piece of money from the U. S. Transportation Department's "Bikeways Demonstration Fund." Ellen Reiss, the newly-

elected Acting Chairman of the Bikeways Coalition made this comment about the proposal. "This route has long been a top priority both with cyclists and bicycle planners because of the safety hazards of travelling the Barre-Montpelier Road and the fantastic opportunities opened up by the relocation of the bicycle corridor. The availability of a special kind of federal funds, with a very advantageous (80% - 20%) grant formula, has sparked renewed interest in the construction project but the success of our efforts depends, in large measure, on the enthusiasm and cooperation of as many area residents as possible."

LETTERS

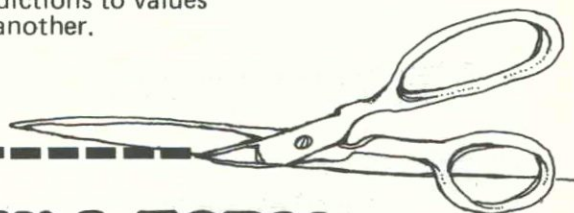
To the Editor:

I have been a member of VNRC for nearly ten years now, and an admirer and supporter of its careful, thorough work on environmental issues within the state. Over the same period of time I have been active in the nonviolent peace movement, working to stop the war in Vietnam, to educate people about the realities of U. S. foreign policy, to oppose the tremendously wasteful B-1 bomber and to develop creative ways of defending our values and resolving conflicts. I have always felt that my involvement with the environmental advocacy movement and the peace movement originated from the same source and reflected the same fundamental concerns.

I am writing to share with you my conviction, which increases the more I see and understand of the problems we face as human beings, that both movements are profoundly connected; and that people and groups within each should become clear and self-conscious about identifying the interconnections. The problem is that although

this sounds nice to say in the abstract, it is very painful to do in specifics. It is one thing to become an opponent of nuclear power because of one's concern for the environment. It is quite another to question our reliance on nuclear weaponry as a means of national "defense," even though a credible case might be made that the likelihood of nuclear war was greater than the probability of a nuclear plant meltdown.

The pain results from the fact that our consciousness has become fragmented. It really **was** possible for us to fight to preserve wetlands in Vermont, and at the same time refrain from talking about what defoliants, Rome plows and carpet bombings were doing to Indochina. Every time we are forced to face such contradictions it is painful, because suddenly we see that assumptions which prevailed in one area create intolerable contradictions to values we hold in another.



-----1976 VNRC RENEWAL FORM-----

Enclosed are my renewal dues of \$.....

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2. Address

3. ZIP

STUDENT.....FIVE DOLLARS
INDIVIDUAL.....TEN DOLLARS
FAMILY.....TWELVE DOLLARS & FIFTY CENTS

NON-PROFIT ORG.....FIFTEEN DOLLARS
ASSOCIATE.....TWENTY-FIVE DOLLARS
BUSINESS.....FIFTY DOLLARS

Letters...

Of course, the other "painful" aspect of the fact that our consciousness and our society is compartmentalized is that we are generally able to organize people for action only on a very narrow set of issues. When we introduce other "controversial" issues our base is likely to seem weakened and our organization may run the risk of losing its effectiveness.

What most deeply concerns me is that I believe the problems we face are rapidly becoming so intertwined that we will find ourselves increasingly isolated and ineffective in efforts to win lasting victories just on "our" specific issues. It is clear, for instance, that if we are to make real headway in working for safe energy, we must talk not only about the environment, but also about alternative sources, jobs, the economy, the power of corporations, and national priorities. If we are to talk about salmon in the Connecticut River we will find ourselves talking about the Law of the Seas, distribution of earth's resources, and the creation of viable transnational organizations. If

we are to work for clean air we have to talk not only about paper mills, but about the B-1 bomber and the ozone layer — and thus about U. S. military goals and some aspects of Foreign Policy.

All this is not to say that VNRC should stop working for a Natural Areas Project — quite the contrary. What I **would** ask is that in its work, and in its publications it permit itself to take the risk of raising the larger issues and inviting discussion on them. By so doing it could provide a valuable stimulus for readers with a specific concern to think about the wider context. It would enable the organization as a whole to gain insight as to the kinds of working relationships it might want to develop with other groups in dealing with the larger issues. It might illuminate specific strategies or coalition efforts we might want to consider as part of an effort for broader social change consistent with our basic concerns.

Scudder Parker
E. St. Johnsbury, VT

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