

The Economics of Energy Extravagance

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INTRODUCTION

In the last two years, Americans have become increasingly aware of the energy dependence of the United States. The Arab Oil Embargo, gasoline and heating oil shortages, truckers' protests and declining auto sales have emphasized the economy's dependence on energy. The energy crisis has engendered an awareness that something is seriously amiss when an ostensibly healthy economy suddenly malfunctions—leaving people without heat, the use of their cars, or without their paychecks.

There have been several responses to the energy crisis. The two most prominent are the proposals for the conservation of energy and the proposals for the expansion of energy supplies. The conservation approach is based on the belief that wasteful energy practices are an avoidable error that can be corrected by sufficiently enlightened public policies decided by people of good will. The supply expansion approach does not question the way in which energy is used, but seeks to assure the provision of enough energy to meet whatever the market demands.

This Article proposes a view of the energy crisis radically different from that adhered to by proponents of either of these approaches, and at the same time gives a critique of the solutions they offer to the energy problem. The Article is in three parts: (1) a critique of the energy conservationist perspectives; (2) a proposal for an alternative theory to the energy-extravagant economy and application of that theory to the case of the American city; and (3) an explanation of why the energy crisis has been responded to predominantly through supply expansion methods.

Utilization of energy in the United States is essentially an economic problem. Wasteful practices in energy use are not, however, a product of random errors or distortions from an otherwise efficient market system, as liberal conservationists have alleged. On the contrary, public and private policies have systematically promoted energy

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extravagance to further the foremost goal of national policy—a healthy and growing economy. In a market economy, built on private production and investment guided by the profit motive and the need to accumulate, a given pattern of development, once established, tends to be self-reinforcing and difficult to change. Moreover, any disruption in an established trend gives rise to economic dislocation that threatens stability and development. The established trend of U.S. economic growth since World War II has been one of extravagant energy use. This pattern, begun during a period of relatively cheap and plentiful energy supplies, developed its own momentum over time until it reached an irrational level of energy use and waste. The economy had become ripe for the crisis produced by the disruption in oil supplies which occurred in 1974.

The supply expansion approach of unquestioned obedience to the status quo pattern of energy use arises from a fear of such a disruption. The advocates of this approach don't discuss the rationality of energy use because they never question the dictates of the market. The advocates of the conservationist approach, while quite enlightened on questions of use, discuss everything relevant to the problem except the fundamental structure of the market, which they too consider beyond dispute. They fail to realize that the energy crisis is not an isolated problem. Energy crises, like other crises to which the market system is prone, come and go, but the root causes of their periodically recurring dilemmas do not.

This Article addresses two basic questions: (1) How did this country become so dependent upon and so wasteful of energy? and (2) Is the situation likely to remain that way?¹

I

CONSERVATIONIST PERSPECTIVES ON REFORM

Appeals for energy conservation are a logical if superficial approach to the energy crisis in the face of America's profligate consumption and waste of energy. Over the past decade the annual consumption of all energy in the United States grew at nearly four times the rate of population² and the consumption of electric energy alone increased at a rate in excess of seven times the population.³ Per capita energy consumption in 1972 was nearly three times that of Western

1. Such engrossing and related topics as the international oil market, the future supply of petroleum, and the financial impact of the Oil Producing and Exporting Countries cartel will not be discussed.

2. U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES: 1974 at 5, 515 [hereinafter cited as 1974 STATISTICAL ABSTRACT].

3. *Id.* at 5, 518.

Europe, more than three times that of Japan, and almost six times the world average.⁴

Much of this energy is being wasted. The overall energy efficiency of the U.S. economy as of 1970 was optimistically estimated at fifty per cent.⁵ That is, at least half of the 65 quadrillion BTU's of fuel energy consumed that year⁶ were discarded as waste heat and various forms of pollution without having performed any useful function. Although some of the waste results from fundamental constraints on the efficiency with which energy can be converted from one form to another, much of it results from poor mechanical design and grossly inefficient methods of transportation and work performance.⁷

Reducing energy waste, therefore, would seem to be a straightforward problem. All one must do is change inefficient machines and patterns of activity. Reformers have pursued such solutions from three perspectives: the sociological, the technological, and the economic. Yet, each of these views fails to touch upon the deeper problems in our system. The "sociological model" attributes our extravagant energy use to the irrational habits of the average citizen too lazy to walk to the corner store or suffer the minor inconveniences of public transit. In this view, it is mainly the consumer's "lack of self-discipline" that is responsible for "our riotous waste of energy."⁸ It takes little insight, however, to see that this view is woefully inadequate; it ignores the realities of the organization of people and their activities in space, the information and choices available to the consumer, and the system of economic incentives that encourages energy consumption. The consumer does not have free choice over a wide range of alternatives. He or she is constrained by fixed spatial relationships—home to work, shopping, or recreation—and by the relative availability of modern energy-intensive goods—automobiles, homes, and appliances. Given the reality of the options, the average American makes rational choices in purchasing two cars and all-electric homes; everyday experience before the energy crisis gave no reason to believe

4. UNITED NATIONS, WORLD ENERGY SUPPLIES 1969-72, U.N. Doc. ST/STAT/SER. J/17, Table 2. See also Energy Policy Project of the Ford Foundation, *Exploring Energy Choices*, Preliminary Report, App. C. (April 1974); D. LARGE, HIDDEN WASTE: POTENTIALS FOR ENERGY CONSERVATION (1973) [hereinafter cited as LARGE].

5. See ENERGY POLICY PROJECT OF THE FORD FOUNDATION, A TIME TO CHOOSE: AMERICA'S ENERGY FUTURE 45-79 (1974) [hereinafter cited as FORD FOUNDATION REPORT].

6. STATISTICAL ABSTRACT, *supra* note 2, at 515.

7. For example, studies show an average of only 1.2 passengers/car in urban rush hour traffic. *Hearings pursuant to S. Res. 45, A National Fuels and Energy Policy Study, Before the Senate Comm. on Interior and Insular Affairs*, 93d Cong., 1st Sess., pt. 1 and 2, at 152 (1973) [hereinafter cited as *Energy Conservation Hearings*].

8. Editorial, *Riotous Waste*, *Christian Science Monitor*, May 15, 1973, at 18, col.

that these choices were unwise. A recent newspaper editorial succinctly illustrates this point: "It is all very well for government officials to repeat the sociological clichés about our wasteful styles of life. But that lofty perspective offers cold comfort to the family living out in the suburban subdivisions that federal housing policy has assiduously encouraged for a quarter of a century."⁹

A second, somewhat more insightful diagnosis of the energy problem is the "technological model."¹⁰ This model focuses on the limited range of energy-efficient alternatives that are available to the consumer. The key to waste reduction lies in better engineering. More efficiently operating products must be produced and the consumer must be educated to consider operating costs as well as purchase price in shopping for automobiles, homes, and appliances.¹¹ The economy's arrival at a point of wasteful energy-intensive living is, in this view, the cumulative result of mistakes and ignorance. The model's proposed solution is to inject a large dose of engineering expertise into the system.¹²

This point of view has spawned a legion of technical proposals for mandatory increases in "end-use" efficiencies. Among these are: promulgation of more stringent thermal insulation standards for buildings,¹³ imposition of energy-efficiency standards for appliances,¹⁴ incentives or regulations requiring more efficient heating and cooling systems,¹⁵ reduced lighting and ventilation standards,¹⁶ and excise taxes on low fuel mileage automobiles.¹⁷ Coupled with these proposals has been a variety of consumer education projects ranging from the Commerce Department's voluntary plan for appliance labeling¹⁸ to the Environmental Protection Agency's efforts to educate consumers regarding the mileage performance of new automobiles.¹⁹

There have also been legislative attempts to encourage these reforms. Recent bills include the Energy Conservation Research and

9. *Gambling on Oil*, Washington Post, Feb. 21, 1974, at A24, col. 1. See H. Gintis, *Consumer Behavior and the Concept of Sovereignty: Explanations of Social Decay*, 62 AM. ECON. REV. 267, pt. 2 (1972).

10. See *Energy Conservation Hearings*, *supra* note 7, at 281, 861.

11. *Id.* at 568, 898.

12. *Id.* at 928.

13. *Id.* at 86-109.

14. *Id.*

15. *Id.*

16. *Id.*

17. H.R. 5005, 94th Cong., 1st Sess. (1974). See *The Automobile Controversy—Federal Control of Vehicular Emissions*, 4 ECOLOGY L.Q. 661, 690-91 (1975) [hereinafter cited as *The Automobile Controversy*].

18. *Energy Conservation Hearings*, *supra* note 7, at 593.

19. OFFICE OF PUBLIC AFFAIRS, EPA, 1974 GAS MILEAGE GUIDE FOR CAR BUYERS: FUEL ECONOMY TEST RESULTS FOR AUTOMOBILES AND LIGHT DUTY TRUCKS (1974).

Development Act,²⁰ the Solar Heating and Cooling Demonstration Act,²¹ and a proposal for an automobile fuel consumption tax.²² The main thrust of the first two bills is to accelerate research and development into promising areas of energy-conserving technology and to encourage its implementation, mainly through federally subsidized demonstration projects. The latter seeks "to encourage the production of more efficient automobiles through the imposition of a graduated excise tax."²³

Many of these proposals appear to make sense, and the energy savings which might be achieved by them are not insignificant.²⁴ It would therefore be unfair to dismiss them as mere band-aids. But the nagging truth is that we are, in fact, only treating symptoms, not causes, when we attempt reform by focusing on technological options. It is apparent that the adoption of a smattering of engineering reforms will be ineffective in the long run unless it is accompanied by reforms in the institutional factors that make inefficient design profitable in the first place. The technology reformers fail to ask what in our economic system promotes waste and renders energy-efficient technological options unattractive.

The economic and institutional incentives which guide consumers and businesses in their energy utilization choices are addressed by the third and most sophisticated liberal perspective: the "economic model." This model recognizes that the market is the primary institution integrating consumers and sellers into American economic society. It also posits that, to a large degree, price signals in the market direct consumer and seller behavior. Thus, for the past thirty years, price incentives have encouraged energy consumption while they have discouraged the development of more energy-efficient alternatives. This analysis is currently being put forward by many public-spirited economists, and has been adopted by leading advocates of the environmental movement. Dr. Ernest Habicht, staff scientist with the Environmental Defense Fund, summarized this position:

Energy in this country has been artificially cheap because its price has not reflected the true costs of its production. Tax, regulatory land-use, and research and development policies at federal, state and local levels have resulted in the massive subsidization of energy extraction, conversion and use. Over the years, these policies have

20. S. 2462, 93d Cong., 1st Sess. (1973).

21. H.R. 11864, 93d Cong., 1st Sess. (1973).

22. H.R. 9859, 93d Cong., 1st Sess. (1973).

23. 119 CONG. REC. E6891 (daily ed. Oct. 31, 1973).

24. It has been estimated that approximately 60% of the energy now wasted could be eliminated through the use of known technology and without requiring radical changes in life. See LARGE, *supra* note 4.

fostered inefficiencies in energy use and have unnecessarily spurred an increase in the demand for energy.²⁵

There is no doubt that government policies systematically encourage energy production and consumption. For example, the depletion allowance and other tax credits, until very recently, subsidized oil exploration and production.²⁶ Demand-prorationing by the states has institutionalized ever-expanding oil production.²⁷ Utility regulation puts constant pressure on electric utilities to increase their rate-base by building larger plants.²⁸ The Interstate Commerce Commission gives trucks parity with railroads on long hauls, wasting millions of gallons of fuel without visible consumer benefit.²⁹

At the same time Habicht errs when he places the onus for energy-wasting practices on government alone. The private sector is equally active in promoting energy production and use. Advertising campaigns, price structures, and credit policies also contribute to waste. All-electric homes sell more electricity but reduce heating efficiency.³⁰ Declining block rates which charge large users at less than marginal cost also sell more power but reduce the incentive on industrial users to conserve electricity. Further, automotive extras and "luxury" size cars are an effective marketing gimmick, yet they also increase fuel consumption. Finally, credit costs encourage purchase of the cheapest appliances. The consumer, in making his or her choice of

25. ENVIRONMENTAL DEFENSE FUND NEWSLETTER 2, Jan. 1974.

26. On March 29, 1975 President Ford signed a tax cut bill that included several tax reform measures—including elimination of the 22% oil depletion allowance for large producers. N.Y. Times, Mar. 30, 1975, § 1, at 1, col. 1. For certain small producers the allowance was retained but was phased down to 15% by 1984. Combined with certain changes in taxation of foreign oil operations it is expected that elimination of the depletion allowance will increase taxes collected from oil and gas producers by \$270 million in 1975 and \$755 million in 1977, when all the new provisions are fully effective. N.Y. Times, Mar. 27, 1975, at 1, col. 6.

The oil depletion allowance subsidized oil companies in that it allowed them deductions far in excess of the actual depletion in value of the well. A. Kahn, *The Depletion Allowance in the Context of Cartelization*, 54 AM. ECON. REV. 286 (1964); P. Stern, *Oil: How It Raids the Treasury*, THE PROGRESSIVE 22 (Apr. 1973); 119 CONG. REC. H7169-73 (daily ed. Aug. 1, 1973) (remarks of Congressman Vanik). The provisions of the Internal Revenue Code had allowed producers to deduct 22% of the gross income from a well subject only to a limit of 50% of the taxable income from the well. 26 U.S.C. §§ 611, 613(a), 613(b)(1)(A) (1969).

27. W. LOVEJOY & P. HOMAN, ECONOMIC ASPECTS OF OIL CONSERVATION REGULATION 127-84 (1967); M. Gaffney, *Editor's Conclusion* to EXTRACTIVE RESOURCES AND TAXATION 333-422 (1967).

28. C. Cicchetti and W. Gillen, *Electricity Growth: Economic Incentives and Environmental Quality*, paper presented at the conference Energy: Demand, Conservation and Institutional Problems, Massachusetts Institute of Technology (1973), in *Energy Conservation Hearings*, *supra* note 7, at 863.

29. J. Conroy, *ICC: Regulation Gone Awry*, ENVIRONMENTAL ACTION (Pt. 1) (Sept. 15, 1973) and (Pt. 2) (Sept. 29, 1973).

30. See FORD FOUNDATION REPORT, *supra* note 5, at 51.

a purchase, often fails to consider the relative costs of operating and maintaining the item purchased.³¹

The whole economy is pointed in the direction of growth along energy-intensive lines, and government policies are just part of the current in the stream. One commentator has termed the past four decades as "a promotional era in energy growth."³² The economic model correctly pinpoints the cause as economic incentives. But the implication is that growth incentives are either errors in foresight (always easier to see with the benefit of hindsight) or random distortions of the market. Neither explanation is satisfactory. The "distortions" which encourage energy consumption are not random, but are a systematic part of "a promotional era in energy growth". Before the crisis appears, that promotion appears both reasonable and desirable to all concerned. Why should that be so?

In order to answer that question one must look at the process of capitalist accumulation by examining the phenomenon of the sprawling, energy-intensive American city. How the self-reinforcing pursuit of profit has worked to encourage the development of that phenomenon will be readily apparent.

II

ACCUMULATION AND THE ENERGY INTENSIVE CITY

The built-form³³ of the American city has changed dramatically in this century with the enormous growth of sprawling suburbs, the concentration of financial and managerial offices in the city center, the separation of work and homes with its consequent need to commute long distances, and the almost complete dependence on the automobile for movement. The modern city is space-extensive and energy-intensive. What is relevant to this Article's analysis, then, is how such a city developed and how adaptable it is to a change in circumstances—e.g., an energy shortage. It is too often assumed that the present form of the American city is either "natural" or the optimal outcome of an efficient allocation of resources controlled by the hidden

31. This is termed a first-cost bias. Even if the consumer is aware of later costs, he or she may not be able to afford the initial outlay for the more expensive appliance which, over the life of the appliance, would be less expensive because of its greater efficiency. For example, a higher-priced and more efficient heating system would require less fuel to produce an equal amount of heat.

32. S. Freeman, Toward a Policy of Energy Conservation, *Bulletin of the Atomic Scientists*, at 8 (Oct. 1971).

33. The term "built-form" refers to the physical structures erected for the city's internal functioning. Buildings (business and residential), transportation, sanitation, and power facilities and the means by which all are related are components of a city's built-form.

hand of the market. These assumptions must be questioned. The city is certainly structured by the play of market forces, but those forces may operate in a fashion that is neither efficient nor desirable from society's point of view. This section will focus on these forces in the abstract and then return to their operation in the urban context.

A. Market Forces

In a market economy the profit motive underlies the individual decisions of private businesses in deciding production and investment. In such a system determining whether to make new capital investments in industry, land, or treasury bills is predicated on expectations of future profit, which may or may not be realized. While such an individualistic system appears to encourage individual innovation, it more often tends to be very conservative, since the penalty for a wrong guess may well be elimination from the game. In other words, it is safer to swim with the stream than against it.

Three factors make investment decisions mutually reinforcing. First, one investor's expectations as to what investments will be profitable are strongly influenced by what other investors are thinking. Second, expectations will be predicated on past experience as to what was profitable, and the guiding maxim is that "nothing succeeds like success." Third, business activities tend to be complementary. For example, if Ford Motor Company is investing in new automobile factories, one would be well advised to invest in tire factories.

An illustration of reinforcing tendencies in investment is the classic land investment bubble: investors hoping to capitalize on the rising value of land bid competitively for properties, thereby driving up the price. This fulfills the expectations of previous investors that prices would rise, thereby setting off another wave of buying. As long as there are enough people willing to buy land, this process continues in an upward spiral. But eventually the bubble bursts because it lacks a productive foundation on which to build, and relies instead on its own momentum of false expectations. Like a chain letter, it must keep growing or collapse. Such mutually reinforcing cycles of speculative boom and bust have always characterized capitalist economies.³⁴

The forces which guide pure speculation and those which guide "normal" investment in industry are much the same, despite the social convention of labeling one good and the other bad. There is one difference: mutually reinforcing industries, unlike land bubbles, have a solid foundation on which to build and the bubble need never burst. Economists writing on the strategies of economic development in un-

34. A. SOKOLSKI, *THE GREAT AMERICAN LAND BUBBLE* (1932) (reprinted 1966).

derdeveloped countries emphasize the importance of such *linkages* among industries in supporting sustained mutual development.³⁵ Exactly the same thing happens in advanced economies in those areas called "leading growth sectors." The automobile industry and its numerous affiliates, which together constitute a significant portion of the gross national product,³⁶ are commonly acknowledged to be such a growth sector. Economist Mason Gaffney argues that the growth of industrial cities can be understood only in terms of such linkages.³⁷ Indeed, it appears that automobiles, urban development, and energy-intensive industries go hand in hand as a broadly based triumvirate of growth, and as these sectors continue to generate profits and reinforce one another, a snowballing effect occurs. Investment and growth feed upon themselves.

This process of accumulation is unquestionably complex. The important point is that the logic of growth is *internal* to the system of mutually reinforcing relations among the individual participants.³⁸ Economist Joan Robinson summarizes the process:

The interaction between firms is important as a determinant of accumulation and technical progress in industry as a whole. The behavior of a particular firm may be discussed in terms of its reactions to prospective profits, but accumulation cannot be explained in terms of prospects of profits which have an objective basis apart from the investment that is induced by them. . . . The prospect of profit for each [firm] depends on what the rest are doing. . . .³⁹

The very existence of investment generates opportunities for profitable sales, so that as long as growth continues, investment will follow. Another economist, Gunnar Myrdal, suggests the process be analyzed in terms of "spiral causality" to distinguish it from the more simplified notion of cause and effect.⁴⁰ It is the prospect of profitability that leads the spiral up and the absence of profitability that leads the spiral down.

35. A. HIRSHMAN, *THE STRATEGY OF ECONOMIC DEVELOPMENT* 110-12 (1958).

36. *BUSINESS STATISTICS*, Apr. 25, 1975, at 2.

37. See M. Gaffney, *Land Rent, Taxation and Public Policy*, 23 *PAPERS OF THE REGIONAL SCIENCE ASS'N* 141 (1967) [hereinafter cited as Gaffney].

38. Consumers are involved in this system, but there is not, contrary to common belief, an *external* force of consumer sovereignty acting as a *deus ex machina* to direct the system. Although consumers and corporations are, in a sense, both guided and guiding, the relationship is asymmetrical in an essential respect: if consumers are disappointed in products the immediate effect is negligible, but if corporations are disappointed in their expectations of profits, the economy goes sour. See text accompanying notes 45-49 and 66-70 *infra*.

39. J. ROBINSON, *ECONOMIC HERESIES: SOME OLD-FASHIONED QUESTIONS IN ECONOMIC THEORY* 107-08 (1973) [hereinafter cited as ROBINSON].

40. G. MYRDAL, *ECONOMIC THEORY AND UNDERDEVELOPED REGIONS* 17 (1971).

B. *Market Forces and Urban Development*

The forces that tend to reinforce development trends are particularly strong in cities, because they have a fixed allotment and spatial arrangement of physical structures which tend to constrain consumption and investment decisions. The urban economy is embodied in the structures built to house people and industry and to transport people and commodities. Inhabitants of the city adapt to this built-form⁴¹ as reflected by their activities. The built-form also embodies an enormous fixed investment of capital, which is very costly and difficult to reorient in a short time. It is this *fixity* of capital investment which is a crucial factor in the development of the urban economy.

From the previous discussion of mutually reinforcing investment decisions,⁴² one may conclude that, once investment becomes tangible in the form of buildings, highways, homes, and factories, attempts to resist the existing trend of development will be extremely difficult. Capital cannot pull up stakes and move to another area instantaneously, just as people living in the suburbs cannot freely begin walking to the city center to work. For the process of accumulation to proceed successfully, existing fixed capital must generate a profit. At the same time, a continuing pattern of development will be *prima facie* evidence that fellow investors are thinking in a certain way and that past expectations of profit have been fulfilled. Certainly if Ford Motor Company has already built that car factory, one would be particularly ill-advised to invest in buggy-whips. Thus, the fact that capital takes on a fixed form in the built environment of the city is not simply an interesting side effect of economic activity, but is integral to, and a determinant of, the process of development.

Three aspects of urban development illustrate the general principles of spiral causality—transportation, housing, and central city development—all of which contribute significantly to the energy-intensiveness of the American city.

1. *Transportation*

The automobile has grown to preeminence in the last thirty years at the expense of more energy-efficient modes of transportation. At the same time, the growth and dominance of automotive transportation have restructured the entirety of urban life. The buildings knocked down for parking lots and streets cannot be magically restored. This restructuring of the city's built-form has in turn reinforced the individual's dependence on the automobile. As more cars are used, more

41. See note 33 *supra*.

42. See text, Part IIA *supra*.

highways are built to meet the demand, or, more typically, to anticipate future demand. As this makes it easier to drive, more cars are purchased, the suburbs are extended, and, once again, bigger and better roads are built—and so on, in a self-reinforcing spiral.

It has been common in recent years to criticize the self-fulfilling expectations of the highway engineers as the cause of the paving over of the cities. However, opponents usually lose their battles against highway construction not because their logic is faulty or that of the engineers sound, but because the momentum of the economy is against them. Indeed, it is not a question of logic, but rather a question of maintaining the pattern of development on its well-oiled and well-paved track for as long as the powerful economic interests involved are prospering. The highway program remains well funded because it meets the fundamental criterion of success. It would be more appropriate to fault the self-fulfilling expectations of corporate investors than those of highway engineers.

The systematic elimination of transportation alternatives to the automobile is an important consequence of this sector of the economy's exaggerated growth. Alternative modes of urban transportation have been allowed to wither under the impact of the automobile. Between 1950 and 1970, the number of private autos doubled while public transit patronage dropped by three billion.⁴³ For over 50 per cent of the driving populace, there is simply no alternative to driving a private vehicle. As a result of these changes, the energy efficiency of urban transportation has declined markedly in the last twenty years.⁴⁴

Did alternatives disappear simply because consumers changed their preferences? In part they did,⁴⁵ but the process itself has been one of spiraling causality. As consumers shift to automobiles, transit revenues fall, and private investors shift their capital from rail and transit companies to such economic growth sectors as the automobile industry. Operating expenditures are then cut back for lack of capital and the result is a decline in the maintenance and quality of the old

43. *Energy Conservation Hearings*, *supra* note 7, at 971. B. SNELL, AMERICAN GROUND TRANSPORT: A PROPOSAL FOR RESTRUCTURING THE AUTOMOBILE, TRUCK, BUS, AND RAIL INDUSTRIES, Report to the Subcomm. on Anti-Trust and Monopoly of the Senate Comm. on the Judiciary, 93d Cong., 2d Sess. 38 (1974) [hereinafter cited as SNELL].

44. A 12% decrease in efficiency. LARGE, *supra* note 4. Considering the continuing improvement of technology, one would ordinarily expect an *increase* in efficiency.

45. There is, to be sure, a "liberating" effect given by the automobile. Even if sufficient public transit were available, some individuals might still prefer the convenience of their own automobile over the relative inconvenience of public transit. The goal, of course, is to educate these individuals regarding the adverse cumulative effects of their personal priorities.

services.⁴⁶ At a certain point in this process the consumer chooses to drive him or herself to work; income again declines and another round of worsening patronage has begun. By the time the government intervenes to rescue the company, the game is already lost—the only riders left are those with no alternatives, primarily the poor and the aged. These consumers will never have sufficient “effective demand” to make transit companies economically viable.⁴⁷

An often missed point is that a declining transportation mode (or any other economic sector) need not be operating at a loss before capital shifts to higher profit areas. Until 1962, all bus transit authorities operated in the black, contrary to the popular belief that they had long been losing operations. But private enterprise was eager to remove itself from this relatively low-profit business⁴⁸ and government assisted the withdrawal by providing miniscule subsidies for mass transit.⁴⁹ In terms of overall social costs—including pollution, safety, congestion, energy efficiency and dislocation—the automobile is vastly more expensive than public transit. However, the indirect benefits of public transit cannot be captured by private industry. Only government can be expected to fund such investments, but there is no lobby behind such a proposal, only scattered citizen protest.

It should also be recognized that the pattern of overbuilding a new transportation mode and abandoning the old has been a recurring theme in American history. The auto industry has boomed, just as the railroads boomed in the nineteenth century. Before the rise of the rail-

46. SNELL, *supra* note 43, *passim*.

47. We ignore, at our risk, the problems of equity which this presents. One hundred million people (35 million over age 16) have no driver's license. In Baltimore the discriminatory effect of an auto-based transportation system is glaring: as of 1970, 41% of the households in the city had no cars, while in Baltimore County, the suburban jurisdiction surrounding the city, only 8% of the households lacked cars. Editorial, *Dependence*, Baltimore Sun, Feb. 23, 1974 at A14, col. 2.

48. The elimination of mass transit also has its more sordid side. It is alleged General Motors, with the help of Greyhound, Firestone, Standard Oil of California, and other giant corporations, systematically bought and dismantled more than 100 electric rail and bus systems in 45 cities between 1932 and 1955. SNELL, *supra* note 43 at 29-32. The authors would argue that the same elimination of rail systems would and did happen without the direct intervention of the corporations, but their thoroughness certainly sped the process along.

49. Compare federal mass transit grants with highway grants:

| FY | FUNDS SPENT/ALLOTTED (in millions) | |
|-----------------|------------------------------------|---------|
| | Mass Transit | Highway |
| 1970 (spent) | \$ 106 | \$4,432 |
| 1974 (spent) | \$ 590 | \$4,574 |
| 1976 (allotted) | \$1,257 | \$4,967 |

SOURCES: OFFICE OF MANAGEMENT AND BUDGET, BUDGET FOR FY 1972, at 120; BUDGET FOR FY 1974, at 107; BUDGET FOR FY 1976, at 105.

roads there was the canal era of the early 1800's. As the railroads prospered, the unused remnants of the great canals grew weeds. It is now apparent that the railroads were vastly overbuilt, and in the twentieth century it is their turn to be bankrupted and abandoned. Nonetheless, each of these transportation booms was at the heart of the economic growth and prosperity of its period, and each was helped along by massive public subsidies — otherwise known as “market distortions.” These subsidies included large land grants and funds to the canal builders, land grants to the railroad barons,⁵⁰ and now the Highway Trust Fund to the highway builders.⁵¹ Although it is commonly said that capitalism's great advantage is its innovativeness and flexibility, it seems that, at least in the area of transportation, the market system has consistently run a good thing into the ground.

2. *Housing*

Market forces similar to those affecting the urban transportation sector are also at work in the urban housing market. Both areas have encouraged suburbanization and wasteful energy utilization. The dictates of profitability in real estate, mortgage, and construction markets operate to encourage suburban growth *independent* of population growth, rising affluence, and changing transportation modes. As in the case of automobile usage, the pursuit of profitable investment exaggerates an existing trend in a self-perpetuating and socially harmful way.

The key to the housing market structure is finance. Capital is systematically withdrawn by low maintenance and abandonment in the inner city until lowered costs and the reduced supply of housing raise profits to an acceptable level. At the same time, the withdrawn capital and new capital are channeled into the suburbs, where returns are high and risks low. In the inner city incomes are low, properties old, and risks relatively high because of the so-called “social pathologies” of the poor concentrated there. To the rational and financially conservative real estate developer the suburbs provide a safer and higher return on investment. Further, the social and economic conditions which appear to “cause” the differential in profits that leads to the outward migration of capital are themselves magnified by that same flow of investment. Prospective homeowners cannot obtain mortgages in the inner city and so turn to the suburbs for housing.⁵² Owners of

50. See C. GOODRICH, *GOVERNMENT PROMOTION OF AMERICAN CANALS AND RAILROADS, 1800-1890* (1960).

51. See note 49 *supra*.

52. REPORT OF THE PRESIDENT'S COMMITTEE ON URBAN HOUSING, *A DECENT HOME* 96 (1968) [hereinafter cited as the KAISER REPORT]. See D. Harvey and L.

older homes in the city find it difficult if not impossible to obtain loans for needed improvements.⁵³ Professional landlords often cannot obtain financing of their mortgages and are thus denied the ability to leverage their capital, an essential part of that business' successful operation.⁵⁴ As a result, they attempt to reduce expenditures by overcrowding tenants or by cutting maintenance costs, thereby accelerating deterioration of the property. Some even abandon properties entirely or allow them to revert to the city in tax arrears.⁵⁵ Finally, municipal expenditures and tax rates rise to bear the increased load of social welfare programs as the poor crowd into the progressively cheaper housing.

In the suburbs, meanwhile, owners and landlords have little trouble securing financing. Maintenance costs are lower because of the newness of the housing and the lack of overcrowding. Additional favorable financial factors are the gains from the rise in land values accompanying rapid growth,⁵⁶ the implicit subsidies in public service provisions,⁵⁷ and the lower tax rates.⁵⁸

This process is continually recreated in either an upward or downward spiral, and the spirals are interdependent. The simple explanation is that urban expansion results from the desire to own a home in suburbia—the American Dream. But to attribute the cause of urban expansion solely to that dream—as an independent choice made by the consumer—is to misrepresent the process. One cannot separate the roles of consumer choice and investment in any simple way.

Chatterjee, *Absolute Rent and the Structuring of Space by Governmental and Financial Institutions*, 6 ANTIPODE 22 (April 1974) [hereinafter cited as Harvey and Chatterjee].

53. See Harvey and Chatterjee, *supra* note 52.

54. *Id.* at 30-32. The Federal Housing Administration (FHA), together with lending institutions and loan companies, has contributed heavily to the financial starvation of the inner city.

There was evidence of a tacit agreement among all groups—lending institutions, fire insurance companies, and FHA—to block off certain areas of cities within "red lines," and not to loan or insure within them. The result . . . was that [these areas] went downhill faster . . . than before.

NAT'L COMM'N ON URBAN PROBLEMS, *BUILDING THE AMERICAN CITY*, H.R. Doc. No. 91-34, 91st Cong., 1st Sess., at 100-01 (1969) [hereinafter cited as DOUGLAS REPORT].

55. For a fuller description of these processes, see D. HARVEY, *SOCIAL JUSTICE AND THE CITY* 140-41 (paper 1973) [hereinafter cited as HARVEY, *SOCIAL JUSTICE*].

56. DOUGLAS REPORT, *supra* note 54, at 384, 398. See text accompanying note 34 *supra*.

57. R. Walker, *Urban Ground Rent: Building a New Conceptual Framework*, 6 ANTIPODE 51, 55 (April 1974) [hereinafter cited as Walker]. See KAISER REPORT, *supra* note 52, at 105.

58. M. CLAWSON, *SUBURBAN LAND CONVERSION IN THE UNITED STATES* 122-23 (1971). See KAISER REPORT, *supra* note 52, at 98-100.

3. Central City Development

Despite the outward migration of primarily white middle-class people to the suburbs, suburbanites at the management and professional levels continue to commute in great numbers to the central business district. And even though most manufacturing, wholesaling, and retailing growth has followed the migration to the suburbs,⁵⁹ there has been a marked increase in downtown office construction in the last fifteen years.⁶⁰ Thus, the central business district often remains the financial and governmental center of metropolitan areas.

Large cities are remarkably similar when viewed from a distance. Each has at its center a huddled mass of skyscrapers out of proportion to the gradient of building heights increasing from the periphery inward. This pattern of central office concentration creates massive commuter traffic and energy use. It is often assumed that this central location and density produce "productive efficiency."⁶¹ There is, however, good reason to doubt this vision of order and efficiency. The observed clustering of corporate headquarters, financial institutions, government bureaucracies, and the professionals who serve them has less to do with production than with such factors as spatial monopoly, personal access among managerial elites, and even a type of "conspicuous consumption" among corporations vying for the most impressive headquarters.⁶²

Additionally, the process of self-reinforcing decisionmaking exaggerates all the above factors and makes the building of skyscrapers a short-term real estate phenomenon. In New York City, for example, more than half the 57 million square feet of office space built in the last five years is still unoccupied.⁶³ A New York real estate executive explains the phenomenon: "Perhaps the biggest reason for the huge oversupply is that speculative builders, trying to make a killing, continued to put up high-price office buildings even after the demand peaked in 1969 In 1968 and 1969, builders who were ready with buildings were making huge profits. Other builders took a me-too attitude, and then everybody put up a building."⁶⁴

It is apparent that office centralization has developed in the same inefficient manner as transportation and housing. All three areas have

59. HARVEY, *SOCIAL JUSTICE*, *supra* note 55, at 63; REPORT OF THE NATIONAL ADVISORY COMM'N ON CIVIL DISORDERS 392 (N.Y. Times ed. 1968).

60. See 1974 STATISTICAL ABSTRACT, *supra* note 2, at 685 *et seq.*

61. See E. MILLS, *STUDIES IN THE STRUCTURE OF THE URBAN ECONOMY* (1972).

62. See Walker, *supra* note 57, at 52.

63. NEWSWEEK, Mar. 18, 1974, at 105.

64. *Id.* For a similar example of overbuilding in a resort city, see Watson, *Condominium Glut Laid to Speculators*, Washington Post, Oct. 14, 1974, at A1, col. 1. Note that "speculators" are, by definition, those who fail to predict the future correctly.

been allowed to grow without any consideration for a policy of rational energy utilization.

The main forces creating the energy extravagant structure of the American city have been the mutually reinforcing effects of expectation on investment decisions, the mutually reinforcing interactions of major growth industries, and the continuity lent to a pattern of development by its physical inertia. While these forces operate to encourage the space-extensive and energy-intensive direction of urban development, another aspect of the market economy—the specter of economic crisis—helps keep the system on its historical path. It is the danger of economic depression that prevents the government from trying to force the economy into a pattern which is significantly more energy conservative.

III

ECONOMIC CRISIS AVOIDANCE AND CONSERVATIVE ENERGY POLICIES

Operating in the American economy is a *negative* force which reinforces the energy-intensive economy: the desire to avoid economic crisis. This force generates the dominant policy of increasing supplies first and curtailing waste second. Because those advocating energy conservation mistakenly accept the basic structure of the economic system they seek to reform, they do not understand why the supply expansion approach is dominant, nor do they see the obstacles to the adoption of their proposed large-scale energy conservation programs.

The idea that the economic patterns and expectations of the past are frozen into brick and steel and cannot be adapted instantaneously or without cost to the needs of the present has been previously discussed.⁶⁵ There is always tension between the built-form of a city created in one period, and the needs of its inhabitants in a later period.⁶⁶ In a market economy the tension between past creations and present needs takes on a special form. If profit-conscious firms do not realize their expected profit levels on past investment in fixed capital, they revise their expectations and, accordingly, their operation. Often this is done by decreasing production, laying off workers, and curtailing new investment plans. These negative actions are cumulative in their effect, both psychologically and in real economic terms of declining corporate and consumer demand. If sufficiently widespread, they will lead the economy into the downward spiral of a business slump.⁶⁷ For

65. See text, Part II B *supra*.

66. D. Harvey, *Society, The City, and the Space Economy of Urbanism*, Ass'n of Am. Geographers (Resource Paper No. 18 of the Comm'n on College Geography) (1972).

67. The effect of fixed capital and expectations on business cycles is the center

instance, past expectations of low fuel prices and easy availability are built into fixed capital and the spatial form of the sprawling city. Hence, there is literally no freedom to undo history and reform the city when energy prices go up and availability goes down.⁶⁸ When this situation occurred during the 1973-74 winter, it was soon transformed into a business crisis in the automobile industry. Detroit had been committed to large, inefficient cars which were now suddenly looked upon with disfavor by a public trying to stay mobile in an automobile-dependent, gasoline-scarce urban world. As a result of lagging sales and mounting inventories, automakers laid off more than 100,000 workers in the first quarter of 1974.⁶⁹ These events led the way into the present recession.

Eventually unemployment, disruption, and the uncertain business outlook generated enough political uproar to force the government to intervene in an attempt to restore prosperous conditions.⁷⁰ But in seeking to "solve" the manifestations of the crisis government, business, and labor have so far avoided its root causes. No one in a responsible position of power has seriously questioned the basis for America's energy extravagance because doing so would necessitate advocating major structural changes in the economy. As a result, government intervention has been generally confined to intermediate solutions while the most pressing problems have been sidestepped. Even when a problem is confronted directly, the treatment is still controlled by the conditions created by the past history of the private sector's investment decisions. Thus, when threats of Arab embargoes and rising oil prices create an energy crisis, the government's dominant policy is to assure continuing, alternative supplies of fuel.

of the now famous Cambridge (Mass.)-Cambridge (England) controversy in capital theory raging in the economics field. In order to prove that business crises should not happen (which seems a bit perverse, since they most clearly *do* happen), the neo-classical defenders of capitalism are forced to assume that fixed capital is as malleable as butter or that all expectations are based on perfect information about the future, both of which are most unlikely propositions. See ROBINSON, *supra* note 39; CAPITAL AND GROWTH, (G. Harcourt & N. Laing eds. 1971).

68. The planning and construction (or reconstruction) of urban structures is too slow a process to respond to a sudden crisis in heating oil or gasoline supply. Rising gasoline prices will not effect a mass migration of people back into the city if there is not the housing there to accommodate them. Controls imposed on the use of private transportation to protect against air pollution meet the same obstacles of incompatibility with the pattern, growth and institutions of the urban area. If these controls are developed without parallel development of substitutes for the services they curtail, the controls become essentially unenforceable. The rigidity of the built-form of the economy will be a problem under any economic system, but it takes on a particular form under capitalism, both in terms of the specter of economic crisis and in terms of the limitations on a response. See text accompanying notes 70-76 *infra*.

69. Washington Post, Dec. 4, 1973, at A6, col. 1.

70. Note, for example, the delay in shifting federal funds from highways to mass transit, as shown in note 49 *supra*.

Crisis avoidance builds a strong conservative element into policy formation. Instead of generating changes in energy utilization patterns, it engenders such environmentally destructive⁷¹ and economically costly policies as the "self-sufficiency by 1985" of the Nixon and Ford Administrations. The programs promulgated by the government in pursuit of "self-sufficiency" have been entirely predictable in that they are aimed at maximizing domestic supply without concern for the environmental costs. The approval of the Alaskan pipeline,⁷² the proposed drilling in the Atlantic Ocean,⁷³ the opening up of western oil shale and coal deposits to large-scale extraction,⁷⁴ and the rapidly increased development of nuclear power⁷⁵ have understandably

71. For the best statement of the relationship of economic crisis to environmental control, on which many of the ideas of this section are based, see G. Mummy, *Law, Private Property, and Environment: A Provocation to a Debate on Solving the Problem of Environmental Pollution*, 4 MARYLAND LAW FORUM 69 (1974).

72. The Trans-Alaska Pipeline Authorization Act, 43 U.S.C. §§ 1651 *et seq.* (1973) directed the Secretary of Interior and other federal officers and agencies to issue permits and authorizations necessary for construction of the pipeline. Construction is now underway. N.Y. Times, Nov. 16, 1973, at 1, col. 1.

73. President Nixon, in his address to Congress on energy on Jan. 23, 1974, announced a proposed tripling of the acreage of outer continental shelf leased for oil and gas exploration. N.Y. Times, Jan. 24, 1974, at 24, col. 7. In response to the complaints of governors of coastal states, Secretary of Interior Morton recently said that while the goal of the policy of the government is to triple the acreage leased, the actual figure is flexible. N.Y. Times, Nov. 23, 1974, at 34, col. 4. Availability of proposed environmental impact statements and the schedule for public hearings on them has been announced by the Bureau of Land Management. Outer Continental Shelf Oil and Gas Leasing, 39 Fed. Reg. 37222 (1974).

74. On August 29, 1973 the Interior Department released the Final Environmental Statement on Proposed Prototype Oil Shale Leasing Program. The program provided for six 20-year leases of public land in Colorado, Utah, and Wyoming in parcels of approximately 5,000 acres each. 38 Fed. Reg. 23343 (1973). President Ford's 1975 State of the Union Message set a production goal of one million barrels of synthetic fuels and shale oil per day by 1985 and called for construction of 20 major new synthetic fuel plants. N.Y. Times, Jan. 16, 1975, at 24, col. 4 [hereinafter cited as 1975 State of the Union Message].

Increased reliance on coal is also part of current policy. In February 1974, Energy Administrator William Simon forecast a 60% increase in coal production. N.Y. Times, Feb. 12, 1974, at 1, col. 6. Congress has provided incentives for conversion of existing plants to coal and use of coal in new plants. Energy Supply and Environmental Coordination Act of 1974, Pub. L. No. 93-319, §§ 2-4(a) (June 22, 1974). The administration remains committed to coal, as evidenced by President Ford's call for construction of 150 new coal-fired power plants in his 1975 State of the Union Message, *supra*.

75. In his "Project Independence" address of Nov. 7, 1973, President Nixon said he was asking the AEC to speed up the licensing and construction of nuclear power plants to reduce to six years the time required to put a plant on the line; the process now takes 10 years. N.Y. Times, Nov. 8, 1973, at 32, col. 4. A few days earlier he had informally proposed to Congress that the AEC be authorized to issue temporary licenses to nuclear power plants without hearings. N.Y. Times, Nov. 3, 1973, at 26, col. 7. President Ford, in his economic address to Congress on Oct. 8, 1974, proposed a shift to coal and nuclear fueled electric power generating plants, with a target date of 1980 for eliminating oil-fired plants from "the nation's base loaded electrical capacity."

brought anguish to those who advocate conservation of energy and the environment. But the advent of these programs is not the only cause for concern. Past successes of the environmentalists are being reversed by the furtherance of this energy-dominant policy. The threats posed by recent legislative and executive actions to the Clean Air Amendments of 1970⁷⁶ are a leading example.

A. *The Clean Air Amendments of 1970*

The Clean Air Amendments of 1970⁷⁷ originally required major reductions in new car emissions of hydrocarbons and carbon monoxide pollutants by 1975,⁷⁸ and of oxides of nitrogen by 1976,⁷⁹ subject to a one-year extension if the Administrator determined the extension essential to the public interest or the technology for reduction not available.⁸⁰ The Amendments also required the Environmental Protection Agency, by August 1973, to have promulgated transportation control plans for those areas with inadequate state plans.⁸¹

At this juncture the quest for clean air ran head-on into the interests of economic growth. The transportation plans proposed for Los Angeles and parts of New Jersey were such that those areas would have been "forced to require such drastic curtailment of auto use by 1977 as to pose significant potential economic and social dis-

N.Y. Times, Oct. 9, 1974, at 24, col. 2. The President followed this by calling for extension of a special 12% investment tax credit for nuclear power plants and for construction of 200 major new nuclear power plants by 1985. 1975 State of the Union Message, *supra* note 74. See FORD FOUNDATION REPORT, *supra* note 5, criticizing the Nixon Administration policies. This report states that the emerging national policy fails to: assure environmental safeguards; insure state, local, and public participation; obtain adequate geophysical information; and receive a fair return on publicly held fuel resources. The report also criticizes the opening of the Atlantic and Gulf of Alaska to commercial oil drilling, and the policy of proceeding with the development of nuclear power. It is a sweeping indictment. See also Nordlinger, *Study Faults Nixon Decision to Allow Ten-Fold Rise in Offshore Drilling*, Baltimore Sun, Mar. 31, 1974, at A1, col. 3. As is often the case, the public will be debating the wisdom of decisions on energy policy long after they have been made. R. Gillette, *Western Coal: Does the Debate Follow Irreversible Commitment?* 182 SCIENCE 456 (1973).

76. 42 U.S.C. §§ 1857 *et seq.* (1970).

77. *Id.* For a history of the Clean Air Act, see ENVIRONMENTAL QUALITY: THE FOURTH ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY (1973) [hereinafter cited as 1973 ENVIRONMENTAL QUALITY REPORT]. See also 4 ECOLOGY L.Q. 441 ff. (1975) (Special Issue on Clean Air Amendments).

78. Clean Air Amendments § 202(b)(1)(A), 42 U.S.C. § 1857f-1(b)(1)(A) (1970).

79. Clean Air Amendments § 202(b)(1)(B), 42 U.S.C. § 1857f-1(b)(1)(B) (1970).

80. Clean Air Amendments §§ 202(b)(5)(A)-(E), 42 U.S.C. § 1857f-1(b)(5)(A)-(E) (1970).

81. Clean Air Amendments § 110(c)(1), 42 U.S.C. § 1857c-5(c)(1) (1970).

ruptions.”⁸² Upon this realization, the Acting Administrator of EPA announced his intention “to explore with the Congress the desirability of extending the deadlines for those areas.”⁸³ The Agency’s approval of the extensions⁸⁴ has since become only part of the continuing attack upon the original Amendments and their pursuant regulations. The courts have forced EPA into longer extensions and modifications of the new car emissions program,⁸⁵ Congress has relaxed the transportation control specifications and deadlines even further,⁸⁶ and President Ford has proposed a five-year delay in imposing the final standards on new cars.⁸⁷ The potential impact of the Amendments’ vigorous enforcement upon the energy industries has also not been overlooked. President Ford recently vetoed an already watered-down strip mining control bill⁸⁸ and will ask Congress for another Clean

82. 1973 ENVIRONMENTAL QUALITY REPORT, *supra* note 77, at 159. In some areas it is predicted that even the elimination of 90% of private vehicle mileage will not meet the federal standards for ambient air quality. See *The Automobile Controversy*, *supra* note 17; 5 ENV. RPTR.—CURR. DEV. 243 (1974) (comment by EPA Administrator Russell Train). Such curtailment has been attacked by business trades as inhibiting the growth or renewal of urban areas, by business groups as creating conditions under which they could not operate, by automotive manufacturers as unconstitutional, if not un-American, and by planners and local governments as exporting urban pollution and economic woes.

83. Russell Train, Acting Administrator, EPA, in Opening Statement at EPA Press Conference, Transportation Control Plans (June 15, 1973).

84. EPA Approves Calif. Transportation Control Plan, 38 Fed. Reg. 31231 (1973).

85. *International Harvester v. Ruckelshaus*, 478 F.2d 615, 4 ERC 2041 (D.C. Cir. 1973). The court’s decision was based largely on a determination that the economic risks of denying a one-year extension of emission curtailment outweighed the slight air quality gain which such curtailment would produce. This decision denied even the most conservative path through which air quality gain could be realized—by small increments—because of the potential economic crisis engendered. The court stated that the probability of such crisis was small but deemed it sufficient to override an agency determination that the technology was at hand to accomplish the desired amount of control. See *The Automobile Controversy*, *supra* note 17, at 664-69.

86. Energy Supply and Environmental Coordination Act of 1974, Pub. L. No. 93-319 (June 22, 1974).

87. 1975 State of the Union Message, *supra* note 74.

88. President Ford vetoed S. 425 (Surface Mining Control and Reclamation Bill) on December 30, 1974. The bill would have provided for the establishment of minimal environmental standards to be followed by states in drawing up mandatory programs for control of strip mining. If a state program failed to meet those standards, a federal program would go into effect. S. 425 further provided: (1) the requirement that land stripped in the future would have to be returned to its original contours unless a better use could be established, (2) a reclamation program for land which had already been stripped and abandoned, (3) a mechanism by which land not reclaimable would be designated unsuitable for strip mining, and (4) protection for the rights of surface owners whose land lay on top of federally-owned coal. Supporters of the bill insisted it was a compromise measure balancing energy and environmental needs. The bill’s opponents insisted it would cause undue hardship for the coal industry at a time when coal was increasingly important for meeting the nation’s energy needs. *Congressional Quarterly*, Dec. 21, 1974, at 3383-85. President Ford’s principal objections to the bill were: (1)

Air Amendment extending until 1985 the date when stack scrubbers will be required for the utilities industry.⁸⁹

This trend naturally causes consternation among those who brought the legislation into being:

One of the greatest political and public interest debates of the next session of Congress will be whether clean air—not just the Clean Air Act—is going to be sacrificed. The trade-off is to give people in the cities emphysema and cancer rather than to crack down on the auto industry which is responsible for so much oil consumption and pollution.⁹⁰

Thus, when economic disruption threatens, “public interest”—as interpreted by the policymakers—dictates that air quality drop several places in the hierarchy of values. Under capitalism, a straightforward problem of restructuring the city to prevent the clear and present danger to public health is strangely converted into a trade-off between two evils—air pollution and unemployment.⁹¹

Those in power have rarely considered cutting back energy use, despite the pleas of environmentalists and energy conservationists for demand management and technical efficiency. The basic supply expansion policies of energy development and environmental retreat are still in force. Questions of wise energy use are still irrelevant and policymakers, despite some indications of a slight “lean” to the conservationists’ side,⁹² are simply balancing the relative disruption to the economy which can come from three major directions: an Arab embargo, excessively high costs of domestic oil production, and excessive conservation of energy or of the environment. Presently, recognition of the Arabs’ power is very high, as illustrated by President Ford’s goal of achieving American invulnerability to oil embargoes by 1985.⁹³ Since a program for attaining this goal would necessitate a short run reduction of supplies, some interest in energy conservation

the possible adverse impact on the country’s domestic coal production, (2) the unemployment increase in the coal industry and those industries unable to obtain alternative fuel, (3) the inflationary impact on the economy resulting from the excessive federal expenditures needed to police the environmental rules of S. 425. 11 *Presidential Documents: Gerald R. Ford* 4 (1975). On May 20, 1975, President Ford vetoed another attempt by Congress to regulate strip mining. *N.Y. Times*, May 21, 1975, at 19, col. 7. The reasons for the veto were similar to those for his veto of the earlier bill. *N.Y. Times*, May 20, 1975, at 1, col. 4.

89. 1975 State of the Union Message, *supra* note 74.

90. *N.Y. Times*, Oct. 10, 1974, at 38, col. 5.

91. An example of this “environmental quality versus economic prosperity” logic is seen in I. Kristol, *Environmental Zealotry*, *Baltimore Sun*, Dec. 22, 1974, at K1, col. 1.

92. 1975 State of the Union Message, *supra* note 74.

93. *Id.*

is being evinced.⁹⁴ Nonetheless, the Administration's policy on energy conservation is that stated by Rogers Morton, then Secretary of the Interior: "The real policy question we face is not either conservation or energy development. The major decision is how do we balance these two strategies *How much conservation can the economy withstand?*"⁹⁵ If future decisions reflect those of the past, the obvious answer to the Secretary's question is that the economy cannot withstand much conservation.⁹⁶ The energy-intensive economy rolls onward and sets the terms against which we must bargain for a margin of environmental quality and wise energy utilization.

CONCLUSION

Energy utilization by American society cannot be adequately understood in the sociological, technological, or conventional economic terms which liberal reformers commonly employ. Neither consumer self-interest, poor engineering, nor misguided government regulation satisfactorily accounts for the fact that per capita consumption of energy in the United States has been increasing at a compound rate of three percent per year. Most wasteful energy consumption occurs because such consumption patterns have continued to be profitable for the economy as a whole, and not because society is ignorant of more efficient methods or because it is inherently lazy. At both the microeconomic level of pricing policies and the macroeconomic level of investment, inordinate energy use is built into the system. In fact, the innumerable distortions and irrationalities of pricing and energy use at the microeconomic level become comprehensible *only* in light of the need for continued economic growth at the macroeconomic level.

The organization of production around private ownership and the pursuit of profit creates a system with a dynamic of its own—capital accumulation—which should not be confused with the general problem of economic growth. That which is rational for the pursuit of capital accumulation may not be rational for efficient energy utilization, the creation of liveable cities, or the preservation of the envi-

94. *Id.*

95. Baltimore Sun, Dec. 10, 1974, at A1, col. 8.

96. We are not so foolish as to think that liberal reforms aimed at increasing energy efficiency without lowering profits are not potentially very useful to industry. If energy costs get high enough, for whatever reason, such reforms will of necessity be undertaken. The point to be understood is that the requirements of the capitalist economy always set the terms of reform. If reform is useful, or at least not damaging to economic stability and growth, it may well be adopted, but if it is harmful to accumulation, *e.g.*, if we choose to have too clean air and too few new cars then this kind of reform can not be accommodated.

ronment. No less formidable a figure than John Maynard Keynes, no enemy of capitalism, observed, "There is no evidence from experience that the investment policy which is socially advantageous coincides with that which is most profitable."⁹⁷

In any economic system, non-radical reform must accommodate itself to the fundamental demands of the system. In fact, to be adopted means to become part and parcel of the maintenance of that system—maintenance aimed at forestalling the degree of economic and political crisis that would demand radical change. This may be observed in proposals for energy conservation and in environmental legislation such as the Clean Air Amendments.⁹⁸ Since the potential impact of that legislation on economic growth "as usual" is much greater than Congress anticipated, one may predict a continuing dilution of its enforcement.

The practical implications of the conclusions put forth are elusive. The authors do not claim that our economic system is absolutely incapable of meaningful change over the long run. Nor do they suggest that socialist systems are necessarily more capable of responding to the needs of the future.⁹⁹ Perhaps a clue should be taken from Thoreau, who described his society's attempts at welfare reform with the metaphor, "There are a thousand hacking at the branches of evil to one who is striking at the root. . . ."¹⁰⁰ While one may stop short of characterizing the market economy that has developed in this country as an "evil," there does exist much "hacking at the branches" of our energy problems. Greater awareness of the structural limitations of our economic system and its capacity to accommodate change must be injected into the discussions by those in the environmental and energy fields. The intellectual leaders of the environmental movement correctly perceive that the economic model is more to the point than sociological or technological explanations for our energy profligacy. They have yet to confront the extent to which the system's structural limitations can and do overwhelm otherwise sound proposals for energy policy reform.

97. J. KEYNES, *THE GENERAL THEORY OF EMPLOYMENT, INTEREST, AND MONEY* 50 (1965).

98. Clean Air Amendments of 1970, 42 U.S.C. §§ 1857 *et seq.* (1970).

99. For a discussion of the relative abilities of capitalist and socialist economic systems to respond to energy and environmental crises, see R. HEILBRONER, *AN INQUIRY INTO THE HUMAN PROSPECT* 82-95 (1974).

100. H. THOREAU, *WALDEN* 68 (Modern Library, 1950).