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THE POVERTY OF AMERICAN ENERGY POLICY

Patrick H. Martin*

Three years have now passed since the Arab oil embargo of 1973. More than any other single event, the embargo made Americans aware of a crisis facing their high energy demand economy. Despite the passage of dozens of acts by Congress, hundreds of conferences on energy, thousands of books and articles on energy problems, and numerous public hearings by congressional, administrative, and state committees and agencies, the United States is in a worse energy position today than at the time of the 1973 embargo. The nation is now importing more oil than ever before, and more of it is coming from sources of doubtful reliability than ever before. Policy planning has been primarily of a short-term nature and has been characterized by expediency and cynicism. Different federal agencies have been working at cross-purposes to one another, the Congress has been unable to choose among competing policy options, states seeking to maximize their own benefits have hampered federal policies, and industries have fought with one another to be the beneficiaries of government actions, all to the detriment of the public. The cause of this has not so much been a failure to arrive at an American Energy Policy, but a failure to agree upon the basic premises from which governmental policies must flow. The poverty of American energy policy is the failure to find these principles and have them serve as a guide to the establishment and implementation of particular energy policies.

Before considering energy policy, it is necessary to ask what is the goal that is to be achieved by the energy policy. Stated in simplest

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1. Total oil imports were approaching nearly one-half of all consumption in the first half of 1976. See 74 OIL & GAS L., July 26, 1976, at 103-10. About 30% of current imports come from countries that participated in the 1973-1974 embargo. Only 18% was imported from these same countries at the start of the embargo. Id., October 18, 1976, at 30.
terms, that goal is to obtain assured supplies of energy in quantities ade-
quate to meet the demands of an advanced industrial society with a high
standard of living while minimizing adverse impacts on the environment
from energy development. The United States, indeed the world, is
now in the midst of a profound shift in its energy resource base. The
energy policy problem is one of how best to facilitate this shift. For
the past half century or so the United States has relied primarily upon
petroleum as a source of energy because of its low price, ease of
handling, and suitability for the internal combustion engine. Profound
economic change took place when petroleum supplanted coal as the
principal source of power, just as drastic economic change occurred
when coal became the fuel of the industrial age in place of firewood and
water power. Petroleum is no longer cheap and assured supplies are
limited: the Petroleum Age is nearly over. The country must wean
itself from petroleum and look to other sources of supply. Until a new
primary source proves itself technically and economically feasible, the
United States will have to rely upon an increasingly diverse mixture of
power sources. The task for policy makers is to accommodate the
changes that necessarily must occur as the nation undergoes the shift
in its energy base while still meeting the goal of the energy policy.

The discussion which follows is an effort to establish several basic
principles which are believed, based upon the experience of current
energy regulation, to be necessary as a guide to future action if the
country is to have a viable energy policy. It is based upon certain
assumptions or conclusions that should be stated explicitly before pro-
ceeding further. First, there is no evidence to support the assertion
that effective competition is lacking in the energy industry. Policy
proposals for breaking up the energy industries or for taking punitive
actions against them would not, if implemented, result in greater
energy production or lower prices for consumers. Second, although
importation of oil will have to continue for many years to come, it is
undesirable for the United States to rely upon foreign sources for more
than 20% of its total energy supplies. Heavy reliance on foreign oil
places the United States in a weak military, economic, and foreign

1964).
4. See [1976] En. Users Rep. (BNA), No. 151, at A-7 to A-10 (summary of
an analysis by Morgan Guaranty Trust Company); Kinney, Divestiture, 74 Oil & Gas
J., May 10, 1976, at 55-61. See also National Energy Project Vertical Integra-

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policy position because the energy supply is not dependable. It also causes an outflow of dollars contributing to an unfavorable balance of trade. Third, the Organization of Petroleum Exporting Countries (OPEC) will not break up or its member states lose the ability to control the price of world market crude oil in the foreseeable future. Absent a catastrophic world event, the price of foreign crude oil will not go down and is likely to increase. Fourth, while conservation of existing energy sources is desirable and, indeed, necessary, it does not lead to energy production. Producing petroleum reservoirs and coal fields have a life span of relatively few years, and new reservoirs and fields must be constantly brought into production just to maintain total production at current levels.

Acceptance of these assumptions or conclusions rules out placing much reliance on several of the policy models that have been proposed for the United States to follow. Professor Howard R. Williams of Stanford University has recently described six energy policy models that have been advocated by influential individuals or groups for the United States in dealing with its current energy problems. Briefly summarized, these are: a) A "Conservation" model, the essential feature of which is that adequate conservation of energy use will in large part solve the American energy problem; b) A "Consumer Protection" model, enjoying much support, which would continue strong controls on natural gas and oil prices; c) A "Break-Up OPEC" model, which is based on the belief that steps can be taken to lessen the market-power of OPEC and thereby reduce the price of petroleum on the world market; d) A "Break-Up the Oil Companies" model with exten-

5. Secretary of Commerce, Elliott Richardson, has declared that "[t]he next embargo could be catastrophic," 74 Oil & Gas J., October 18, 1976, at 30. Another embargo, he estimated, could cost the United States 4.8 million jobs and $170 billion a year in gross national product. Id.

6. Secretary of the Interior, Thomas S. Kleppe, noted recently that the cost of oil imports has jumped from $3 billion in 1970 to around $35 billion in 1976. Putting it another way, he observed that in 1970 we paid $15 per person for imported oil. This year we are paying the foreign oil producers more than $160 for every man, woman and child in America. Department of the Interior Press Release (September 21, 1976).


8. Despite greatly increased drilling activity, domestic production is declining 3%-4% per year. From a 1970 peak of a daily average of 9,637,000 barrels per day, production has dropped to an average of 8,085,000 barrels per day. 74 Oil & Gas J., July 26, 1976, at 103.

9. H. Williams, Oil and Gas and the Federal Lands (Aug. 23, 1976) (paper presented to the Conference on Energy and the Public Lands, Park City, Utah, a copy of which was provided the author by Professor Williams) [hereinafter cited as Williams].
sive public appeal that would attempt to lower energy prices by vertical and/or horizontal divestiture of the holdings of major energy companies; e) A "Federal Oil and Gas Company" model which would involve establishing a federal corporation to develop the oil and gas resources of the public lands and the outer continental shelf and to engage in other activities now fulfilled by private companies; f) A "Free Market" model which would balance supply and demand of energy resources by removal of many or most of the government controls on energy. In addition, there is "Project Independence," the goal of which is to stimulate additional energy production to decrease reliance on foreign energy sources.  10

Each of these has found support in Congress, and each has had some influence on recent legislation and/or administrative agency rule making. 11 However, as the preceding statements would suggest, several of these models hold no hope for increasing energy supplies or lowering prices, for example, the "Break-Up the Oil Companies" model and the "Break-Up OPEC" model. Some aspects of the other models are inconsistent with one another and tend to be counterproductive. Thus price controls enacted pursuant to the "Consumer Protection" model do insulate the consumer from the full effects of foreign crude oil price increases, but they do not promote conservation of petroleum products, and they discourage development of additional petroleum resources and alternative fuels.

The inadequacy of present energy policies is explained by the inconsistent goals sought to be achieved by Congress and the lack of consensus on basic principles that should be followed. Professor Williams suggests that the "Free Market" model should be given a greater opportunity to prove itself as an efficient means of achieving a sound energy policy. 12 The author is in agreement with Professor Williams that the "Free Market" model should be pursued further. 13 However, it must be acknowledged that the model has certain short-

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10. Examples of each of these models are to be found in H. WILLIAMS, R. MAXWELL & C. MEYERS, CASES ON OIL AND GAS 13-106 (3d ed. 1974) [hereinafter cited as WILLIAMS, MAXWELL & MEYERS].


12. See Williams, note 9 supra.

13. Professor Williams does not fully articulate his concept of the "Free Market" model. The description of the "Free Market" model which follows is not necessarily the same as Professor Williams' model.
comings. For present purposes, the most important of these is that the market system often does not reflect all of the true costs of the production of the item or commodity in question. Economists refer to this as the problem of externalities. Thus, water or air pollution or other environmental degradation is a cost of many types of energy development which, without governmental intervention, is not reflected in the cost of the energy to the consumer. As a result, there are many who feel that various types of governmental activity are necessary to "internalize" the costs of pollution or to limit or prohibit certain types of conduct involved in energy production. Governmentally imposed costs or limitations on energy development often will hinder that development. Compromise on environmental protection and other social values will be necessary. Such compromise entails two problems. First, by what standards should environmental limitations on energy development be measured? Second, who should have the authority to make these limitations: federal, state or local government? In discussing the rationale of the "Free Market" model and answering these questions, the author will attempt to establish several basic principles upon which a sound American energy policy may be based. The focus will be upon several areas of primary concern: control of price and allocation of supplies of energy, protection of the environment and federal-state relations in energy policy.

I. A Market System of Pricing and Allocation is Preferable to Governmental Pricing and Allocation

Determination of the price of energy is one of the most important aspects of current federal policies on petroleum. The wellhead price of natural gas in interstate commerce has been controlled by the Federal Power Commission since the 1954 Supreme Court decision of Phillips Petroleum Co. v. Wisconsin. Price controls on crude oil and refined products are of more recent date. They were first imposed in 1971 as part of general price controls throughout the economy. However, when controls were lifted on other goods they were reimposed on oil and this price control authority has been continued under the Emergency Petroleum Allocation Act of 1973, as amended. 

15. See text accompanying notes 95-97.
The necessity of allocating supplies of energy arises as a natural and inevitable consequence of controlling the price of energy. If there were no price controls, there would be no problem of allocation, for one of the primary functions of price is to allocate scarcity to those who are most willing to pay for the short supplies. Thus the topics of price control and allocation can and should be treated together.

The Function of Price

Price serves several functions at once in a market system. At a minimum, the price of an item should be high enough to compensate a seller for all of the costs which he has incurred in acquiring or producing the item. The price paid for an item then serves a compensatory function, returning to the seller all, or some, of the costs he has had to bear. The seller will always try to sell at this price at the very least. Price serves also as an important mechanism for signaling the seller, other sellers, and potential sellers. If the seller is unable to sell at the level he calculates is necessary to recoup his costs, it is a signal to him to produce less, to lower his costs by becoming more efficient or by finding cheaper supply sources, or to retreat from the market entirely. Others observing the experience of this seller know not to enter the market or to reduce their output as well, unless they, for some reason, do not have to bear the same costs as the seller. If the seller is able to sell all of his output at a level higher than is necessary to recoup his costs, it is a signal to him to increase his output. For other sellers and potential sellers, the ability of the seller to sell his product at a price greater than his costs is a signal for them likewise to increase their output or to enter the market, for there is an unsatisfied demand among buyers that they can satisfy. They will produce increased amounts of the same item as the first seller or a substitute for the same item so long as they can recoup their costs, even if they will not enjoy the same profit level as the first seller.

The preceding will serve to introduce the first problems that are posed by price controls. If the price set by the government is below the amount necessary to compensate the seller for all of his costs (again
including a reasonable return for labor and investment), then the seller will decrease his production or cease it entirely. If the price is set at a level just sufficient to compensate the seller, the price will not serve as a signal for others to enter into the market or to increase their output of the same or similar items. Those who could produce the same item or a substitute at a higher cost than the first seller will not do so because they would not be compensated for the costs they incurred. Thus new, higher-cost production is discouraged by the price controls.

Price serves as an important signal to buyers as well as to sellers. When buyers learn of a price increase (whether it is caused by increased costs or by increased demands and higher profits to sellers) they know that if they are unwilling or are unable to pay the full price increase they must become more efficient and use less of the item, or they must switch to substitutes for the item, or both. Buyers who have a great need for the item will be more willing to pay a higher price than those who do not have a great need for it. As the price increases, buyers who can rely on less will do so, thereby conserving the item, and those who can switch to substitutes will switch. Price, then, will allocate supplies of the item to those who cannot conserve and who cannot switch to a substitute item. It may be objected that price will allocate to those with the money to pay the higher price and not necessarily to those with the greatest need. Suffice it to say at this point that among those with money price will serve this allocative function, and if those without the necessary funds are deemed by society to have a superior claim to the item, it would be preferable to give a subsidy to those without the funds to enable them to make the necessary purchase.\[20\]

Price controls pose problems because of their effects among buyers of the controlled items as well as their effects among sellers. By limiting the price, the government reduces the incentive to conserve the item, and thus wasteful use of the item may be continued. Those who can switch to a substitute will not switch so long as the price of the substitute is greater than the price of the controlled item and the buyer is able to purchase the controlled item. With prices controlled by a governmental body, price is unable to perform its allocative function of determining which buyers feel that their use of the item is the

\[20\] One of the problems of price controls is that they hold down the price to the wealthy as well as to the poor. They subsidize all purchasers, not just those who might need the subsidy.
most essential use. If price is not allowed to allocate, another method of allocation must be employed.

Allocation

When demand exceeds supply of an item and price is not allowed to allocate among those who demand the item, that is, the price is controlled at a point below its market-clearing level, then another system of allocation must replace the price system of allocation. If the item is not awarded to the highest bidder then it must be awarded to someone else on some other basis than willingness to pay for the item. Thus when the government determines that it will control the price of an item, it will generally also have to determine who will be allowed to purchase the item at the controlled price. As previously indicated, rational and efficient use of an item tends to predominate when price is the method of allocation. Other values may become predominant when another method of allocation is used. For example, if the agency chosen to make the allocation is inclined toward protection of the environment, it may allow purchases of the controlled item only by those persons who will use the item in a manner least likely to harm the environment. The agency’s decision then constitutes, in effect, a subsidy to the environment, and that subsidy is hidden in the price controls. If the agency is dependent upon political favor for its continued existence, then it may choose to sell the controlled item only to those most likely to be able to assist the agency in gaining political favor. In effect, the agency’s decision is a subsidy to those with the greatest political support. Buyers who must purchase substitutes at higher prices because they were not favored by the agency are placed at a competitive disadvantage vis-a-vis those who are favored by the agency.

In other words, the agency which determines the method of allocation is capable of putting a number of values other than rational and efficient use of the item into the system of allocation. Such values may never be expressly articulated and may not reflect the optimum use of the item. Those who are allowed to purchase at the controlled price are given a subsidy. Those who are not allowed to purchase at the controlled price must do without, or find a substitute at a higher price or one which is much less satisfactory than the unavailable item. This places the persons who do not receive the subsidy at a competitive dis-

21. See note 18 supra.
advantage to those who are given the subsidy by the allocation of the item to them.

In addition to the problems of hidden subsidies in governmental allocations, there is also the problem that the allocations may fail to identify the persons who are capable of conserving or using a substitute good or doing without the controlled item. That is to say, the administering agency may allocate the item to persons who are capable of using a substitute item and may refuse to allocate the item to another person who needs the item and cannot possibly use a substitute. To give an example, let us say that A and B both want gasoline so that they can drive to work. A lives in the city on a bus line while B lives in the country and has no means of transportation other than his car. If price is used to allocate gasoline between A and B, B would under almost any circumstances be willing to pay more for the gasoline than A, for A has the alternative of riding the bus to work. If the price of gasoline is controlled at a low level, B would have no opportunity to outbid A for that gasoline. The government controlling the price would then allocate between A and B in some fashion. There might be a lottery, and if A’s name were pulled, then A would not ride the bus even though he has this alternative. B who has no alternative will not get the gasoline. Or again, the agency might decide to give both A and B an equal amount of the gasoline at the controlled price. This too results in a misallocation, for A will now drive to work when it might be preferable that he ride the bus and B may not be allocated enough to carry him to work. Of course the government agency could allocate the controlled gasoline to B and could force A to ride the bus, but this would require a vast bureaucracy to ascertain the relative needs of people, and it would necessarily involve a dramatic intrusion into people’s lives and deprive them of an element of their personal freedom. A complex system of allocation may require massive expenses to the public, and it would be subject to abuses by those administering it.

Current Price Control and Allocation of Natural Gas

Natural gas has been subject to control by the Federal Power Commission since the passage of the Natural Gas Act in 1938.22 The purpose of this Act was primarily to regulate interstate gas pipelines which were thought to be subject to monopolistic control.23 It was not

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until 1954 that the FPC began to regulate the wellhead price of natural gas in interstate commerce for all producers, when the Supreme Court, in Phillips Petroleum Co. v. Wisconsin, held that the FPC was mandated by the Natural Gas Act to do so.\textsuperscript{24} In the Phillips decision the FPC was thus given the task of regulating the wellhead price for natural gas produced by thousands of companies.

As Edmund Kitch has commented, the "imposition of price control on the field market for natural gas represents an important departure for American economic regulation; price control has never before been administered by a permanent, federal regulatory agency."\textsuperscript{25} The Commission was not prepared for the task given it. For several years it attempted to deal with the problem on a company by company, cost-of-service basis. This was not administratively feasible, so the FPC announced in 1960 that in the future it would determine pricing for natural gas on an area by area basis.\textsuperscript{26} It instituted a provisional two-tier pricing system while it proceeded in setting area rates. In 1965 the Commission issued its first decision for an area rate and subsequently, the Supreme Court fully supported the Commission's rate making process.\textsuperscript{27} Essentially this was a modified cost-of-service method, using average costs in a producing area and employing two price levels or tiers.

In the tiered pricing approach, flowing or "old" gas under contract has been limited to a lower price than "new" gas which is yet to be produced or has not been dedicated to interstate commerce. The reason for using this approach is to encourage development of new gas fields and dedication of the gas to the interstate market.\textsuperscript{28} Both the lower and upper prices have been determined by costs to the producers, but the costs for new gas production have been higher. By not averaging the costs for the new production with the costs for currently flowing gas, one is able to give an incentive for new production and avoid a so-called windfall to producers of "old" gas.\textsuperscript{29} An upper tier may later become an intermediate tier as the price for new gas must again be

\begin{itemize}
  \item \textsuperscript{24} 347 U.S. 682-83 (1953).
  \item \textsuperscript{25} Kitch, supra note 23, at 243.
  \item \textsuperscript{26} See generally Williams, Maxwell, & Meyers, supra note 10, at 77-91; Breyer & MacAvoy, \textit{The Natural Gas Shortage and the Regulation of Natural Gas Producers}, 86 Harvard L. Rev. 941, 958 (1973) [hereinafter cited as Breyer & MacAvoy].
  \item \textsuperscript{27} Permian Basin Area Rate Cases, 390 U.S. 747 (1968). Other rates were set for other areas by the Federal Power Commission. Southern La. Area Rate Cases v. FPC, 428 F.2d 407 (5th Cir. 1970), \textit{cert. denied}, 400 U.S. 950 (1970).
  \item \textsuperscript{28} See Breyer & MacAvoy, supra note 26, at 950-51.
  \item \textsuperscript{29} \textit{Id}.
\end{itemize}
raised to reflect increased costs and to give additional incentive for exploration and development. As will be discussed below, the tiered pricing system has also been employed in regulating the price of crude oil.

Area rate making proved difficult for the FPC, and in 1974 the Commission moved to establish a uniform national rate-base. With Opinion No. 699 the FPC established a maximum rate of forty-two cents per thousand cubic feet (Mcf) of natural gas. This rate was to be applicable to all gas produced from wells commenced on or after January 1, 1973 or dedicated to interstate commerce after that date. Existing rates for flowing gas set under the area-rate method were not changed. More recently, in Opinion No. 770, the Commission has established a uniform national rate for “new” gas of $1.42 per Mcf for the 1975-1976 biennium with a one cent per quarter escalator clause being permitted. For “new” gas for the 1973-1974 biennium a rate of $1.01 per Mcf was permitted by the initial opinion. However, on November 5, 1976 the Commission issued Opinion No. 770-A, modifying No. 770. The rate for 1973-1974 gas was reduced to $.93 per Mcf, and the definition of “new” gas was modified to include only gas from wells commenced on or after the first day of the 1973-1974 or the 1975-1976 biennium. Gas from wells commenced prior to these dates but dedicated to interstate commerce for the first time during either biennium will not be eligible for the rates of Opinion No. 770, so the incentive for a producer to shift from the intrastate market to interstate market was removed. Again, other existing rates were not altered, so gas sold in interstate commerce is now being sold at widely varying rates.

Opinion No. 770, as modified, is the latest response by the FPC to a crisis in natural gas that has been developing for years. The crisis is directly attributable to the price controls on natural gas sold in interstate commerce. To begin with, natural gas is a nearly perfect fuel: it is virtually nonpolluting, easy to control (close regulation of temperature is possible) and requires no storage facilities for the purchaser. People would be willing to pay more for natural gas than for alternative fuels in order to get the qualities that gas possesses. However, the FPC has held the price of natural gas below the price of substitute fuels;

30. 18 C.F.R. § 2.56a (1976).
32. Id.
the price has not reflected the commodity value of the gas. As a result, energy consumers would, other things being equal, prefer natural gas to fuel oil or coal. The use of substitute fuels has thus been discouraged by the price controls on gas. Demand has been high, and gas has been used faster than producers have been able to add new reserves to meet future needs. It is open to question whether the price of new gas has in the past been set high enough to encourage new production. A “reasonable” rate of return on investment has been built into the price setting methodology, but it is doubtful that the costs used in rate setting have adequately anticipated future costs to producers. In making new investments it is future and not historic costs to which the producer must look. Also, it is reasonable to assume that the great uncertainty which has existed about future regulatory policy has discouraged new development of gas.

Further complicating this already complex situation has been the fact that intrastate sales of natural gas have not been subject to regulation by the Commission. Natural gas prices in the intrastate market have been able to rise to reflect the economic value of the gas. Producers who have been faced with a choice of entering into the interstate or the intrastate market have quite naturally preferred to sell the gas they have produced in the intrastate market at a higher price. They have probably been under a legal duty to their lessors to obtain the highest possible price for the gas so as to give the highest royalties possible to the lessors. As more gas has been dedicated to the intrastate market, less gas has been available for dedication to the interstate market, and the shortage has been exacerbated.

Faced with a growing shortage of natural gas in interstate commerce, the FPC has had to determine who would receive the scarce supplies of gas that have been available. The Commission, as an out-

34. Moody, 1974—The Gathering Storm, 26th OIL & GAS INST. 1, 36 (Matthew Bender 1975) [hereinafter cited as Moody].
35. See Brown, Introduction, to Regulation of the Natural Gas Producing Industry 1, 8 (K. Brown ed. 1972). For a suggestion that Federal Power Commission prices have been fully adequate to compensate producers, see Spritzer, Changing Elements in the Natural Gas Picture: Implications for the Federal Regulatory Scheme, Id. 113, 123-25.
36. Moody, supra note 34, at 45-46. While sales of gas in interstate commerce have been limited to about fifty cents per Mcf, prior to the issuance of Federal Power Commission Opinion No. 770, intrastate sales had risen to $1.50 to $2.00 per Mcf. [1976] EN. USERS REP. (BNA), No. 138, at G-1.
38. Moody, supra note 34, at 46-47.
growth of its regulation of price, has been led to the control of the end-use of gas in interstate commerce and to the establishment of priorities in regulating pipelines which must curtail their delivery of gas under contracts to purchasers. 39

Since the case of FPC v. Transcontinental Gas Pipe Line Corp. in 1961, it has been accepted that the Commission has the authority to consider the end-use to which jurisdictional gas may be put in deciding whether to grant a certificate of public convenience and necessity. 40 The Supreme Court held in that case that the Commission could deny a certificate if granting the certificate would not be in the public interest, and the end-use of the gas was held to be one of the factors that could be considered in ascertaining the public interest. End-use control has become an important factor in certification proceedings before the FPC. 41

The curtailments policy of the FPC also reflects control over the end-use to which natural gas subject to the FPC's jurisdiction is put. The problem arose when it became apparent in 1970 and 1971 that some gas pipelines would be unable to fulfill their contractual obligations to customers. 42 FPC Order No. 431 required jurisdictional pipelines to report whether they would be able to fulfill their contracts and to file proposals for curtailing deliveries on the basis of broad policies stated by the order. 43 In subsequent opinions the Commission stated its curtailments priorities more explicitly. 44 It established categories based on end-use, and a pipeline was required to curtail all deliveries to a lower category before curtailing deliveries to the next higher category. 45 Highest in priority have been domestic consumers of natural gas and the lowest category has been boiler fuel use.

A major problem with the FPC's curtailments policy is that it is applied on a pipeline-by-pipeline basis. Thus one pipeline may have

41. WILLIAMS, MAXWELL & MEYERS, supra note 10, at 85.
42. The development of the curtailments policy is discussed fully in Louisiana v. FPC, 503 F.2d 844 (5th Cir. 1974). See also Comment, FPC Natural Gas Allocation: Curtailment in Context, 50 Tex. L. Rev. 1370 (1972); Tiano, The Limits of Federal Regulation of Natural Gas Curtailments, 64 Geo. L.J. 27 (1975).
44. Opinion Nos. 647 & 647-A (1973), aff'd, Louisiana v. FPC, 503 F.2d 844 (5th Cir. 1974).
45. Louisiana v. FPC, 503 F.2d 844 (5th Cir. 1974).
sufficient gas to supply its customers for even some boiler fuel use while another pipeline is faced with such a shortage that it must curtail delivery for some of its highest priority customers. However, any other approach might require confiscation of one pipeline’s gas to give it to another. A second problem is that the FPC’s priorities are not those that the pipeline would establish if it were trying to limit its total liability to customers to which it has been unable to make deliveries in amounts required by its contracts. A pipeline unable to fulfill all of its contracts would deliver gas to the customers who would expose the pipeline to the greatest liability if they did not receive the gas; the pipeline would not deliver gas to a customer who would not be able to hold the pipeline liable for large damages because of the nondelivery. Thus the priorities established by the FPC can greatly affect the potential liability of pipelines for failure to live up to their contracts. However, it has been held that the Commission lacks the authority to absolve pipelines subject to its orders from the liability that may result from adherence to the FPC’s curtailments priorities.\textsuperscript{46} Potential liability from current litigation is estimated to be over one billion dollars.\textsuperscript{47}

The enormous problems caused by the regulation of the wellhead price of natural gas in interstate commerce have been widely acknowledged by scholars, government officials, producers, pipelines, large consumers and others familiar with the history of the subject. Many have called for the deregulation of natural gas prices as the only effective method of dealing with the situation.\textsuperscript{48} However, the Congress has narrowly defeated a bill designed to accomplish this, and there is strong support in Congress for doing just the opposite, that is, requiring regulation of intrastate prices as well as interstate rates.\textsuperscript{49} The large increase in rates allowed by Opinion No. 770 appears to have killed temporarily the prospects for change in either direction.\textsuperscript{50} Opinion No. 770 is a step in the right direction, but the immense problems with natural gas

\textsuperscript{46} Id. at 867-68. Numerous suits for damages have been filed. E.g., New Orleans v. United Gas Pipe Line Co., 390 F. Supp. 861 (E.D. La. 1974). The Fifth Circuit recently upheld the granting of a stay of all proceedings to await a response of the Federal Power Commission as to its primary jurisdiction over the curtailment question. Mississippi Power & Light Co. v. United Gas Pipe Line Co., 532 F.2d 412 (5th Cir. 1976).

\textsuperscript{47} Brief for Appellee at 13, Mississippi Power & Light Co. v. United Gas Pipe Line Co., 532 F.2d 412 (5th Cir. 1976).

\textsuperscript{48} E.g., P. MACAVOY & R. PINDYCK, PRICE CONTROLS AND THE NATURAL GAS SHORTAGE (1975).


\textsuperscript{50} FOSTER NATURAL GAS REP., NO. 1065, August 12, 1976, at 8.
will remain until the price of gas is allowed to reflect its true value to purchasers.

**Current Price Control and Allocation of Oil**

Federal policies on crude oil and its products are no better than those for natural gas and in some respects are worse. They at least have the virtue that they are said to be temporary, with a date specified by statute for their phasing out. However, it seems likely that they will be continued beyond that time.

Price controls on oil were initiated as part of a wider scheme of economic regulation undertaken pursuant to the Economic Stabilization Act of 1970. Wage and price controls were applied by the Cost of Living Council throughout the economy in 1971 but were phased out in 1973 in favor of voluntary restraints on prices. Controls were reimposed in March, 1973 for the petroleum industry. In November of the same year the Economic Stabilization Act was superseded by the Emergency Petroleum Allocation Act of 1973 (EPAA) which, as amended, has served as the basis for controls since then. The Cost of Living Council was replaced by the Federal Energy Office established by the President in December, 1973. It was in turn replaced by the Federal Energy Administration (FEA) established by congressional act in 1974.

The controls on oil instituted under EPAA have created one of the most complex, cumbersome, and onerous regulatory systems administered by the federal government. The principal purpose of the EPAA is itself not undesirable: it is to mitigate the effects on the American public of the Arab oil embargo of 1973-1974 and the concurrent drastic increase in the price of petroleum on the world market. However, the embargo has long since ended, and the price increase

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appears to be permanent. The controls remain and will continue for years more.

As with the price controls on natural gas, a two-tier system was initially employed for crude oil.\textsuperscript{56} Oil already under production was deemed “old oil” and was allowed to be sold only at a low price. To encourage greater exploration and production, oil produced after a specified date was deemed “new oil” and was exempted from price control. Of course the authority of Congress could not extend to other countries, so imported oil was and is exempt from price limitations. The method of determination of what is “old oil” has been troublesome. It has depended upon the proper definition of the term “property” in the federal regulations. “Property” is “the right which arises from a lease or from a fee interest to produce domestic crude oil.”\textsuperscript{57} “Old” oil was the amount of oil produced from a particular “property” below that “property’s” “Base Production Control Level” (BPCL).\textsuperscript{58} The BPCL for any month was determined by comparing production for the same month from the same “property” in 1972, or if oil was not produced and sold in every month in 1972 then the BPCL was the total amount produced for 1972 divided by 12. Each barrel of oil produced above the BPCL was deemed “new” oil and was exempt from price control. In addition, for each barrel of “new” oil produced the producer was allowed to treat one barrel of “old” oil as “released” oil which was also exempt.

The problem with the definition of “property” stems from the fact that a given tract of land may contain multiple reservoirs of oil. To give maximum incentive to increased production, each reservoir should be treated as a separate property. Some producers so treated it because the regulatory definition was ambiguous. The FEA has recently declared that this was proper in some circumstances and will prospectively treat each reservoir as a separate “property” if the state agency which regulates production so recognizes the reservoirs.\textsuperscript{59}

Unlike controls on natural gas, the prices for crude oil have not been based on cost. They have been determined arbitrarily. The price for “old” oil was set at the posted price for that oil on May 15, 1973 plus $1.35 per barrel.\textsuperscript{60} The average price for “old” oil has been

\textsuperscript{56} The price regulations are contained in 10 C.F.R. § 212 (1976).
\textsuperscript{57} 10 C.F.R. § 212.72 (1976).
\textsuperscript{58} Id.
\textsuperscript{60} The price setting at this level was upheld in Nader v. Sawhill, 514 F.2d 1064 (Emer. Ct. App. 1975).
about $5.25 per barrel as a result. The price for oil exempt from price controls has been determined by the world market price which is unrelated to cost of production.

One other category of crude oil exempted from price controls has been “stripper well” oil. Approximately thirteen percent of the total crude oil produced in the United States is produced from marginal wells that average less than ten barrels production per day. To avoid premature shutting down of these wells they were provided an exemption from the controls. Initially the regulations afforded an exemption only in the year following a calendar year in which production from the lease was at or below the stripper well level of an average of ten barrels or less per well per day. This regulation created a disincentive to production increases, for if a producer went above the stripper well definition amount he lost his stripper well classification, and a portion of his production was then treated as “old” oil. An amendment to the regulation was necessary, and the regulations have since removed this disincentive to production increases. It is not possible to ascertain how much production was inhibited by the regulations when they were in effect, but this is one example of the unintended, undesirable consequences that can result from price controls.

There have been price controls on petroleum products as well as on crude oil. These prices have been determined by reference to a “base price” for refiners calculated as of May 15, 1973 plus cost increases permitted by the FEA. This allows refiners, wholesalers and retailers, to pass through certain increased costs on a dollar-for-dollar basis. The time and manner of passing through costs has been elaborate, and in some cases, the competitive market has not permitted pass through of costs. In some instances the regulations will not permit a later pass through (known as “banking”) of certain cost increases. The FEA is currently phasing out some product price controls since maintenance of crude oil price controls in a competitive product market will serve to keep product prices low.

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63. 10 C.F.R. §§ 212.82-83, 212.92-93 (1976).
64. Misinterpretation of the pass through regulations has led to controversy between Congress, the FEA and industry. See [1976] EN. USERS REP. (BNA), No. 163, at A-1 to A-5.
By passage of the Energy Policy and Conservation Act of 1975, Congress increased the complexity of the price controls.67 In December, 1975 the EPAA was amended to provide for continuation of price controls for another forty months. The controls were made more stringent in some respects. The amendments mandated that the FEA set prices for domestic crude oil so that it would have an initial average price of $7.66 per barrel.68 This required a "rollback" in domestic crude oil prices.

In response to the amendments to the EPAA, the FEA has established what amounts to a three tier price system. Lower tier oil is priced in essentially the same manner as "old" oil was priced. However, a new BPCL has been established: the producer may use his production for 1975 for the BPCL or he may use a BPCL based on 1972 production if he has reason to want to use it.69 The BPCL may be adjusted each six months to take into consideration the natural decline in production caused by reduction of the energy of a reservoir.70 Oil qualifying for the upper tier ceiling price is that oil produced from a specific property in excess of the revised BPCL.71 There is no longer a provision for "released" oil. The price of upper tier oil is determined by first calculating the total amount of domestic production for the accounting period in question. The percentage of that total which is lower tier oil multiplied by the average price of lower tier oil, added to the percentage of the total which is treated as upper tier oil, multiplied by the average price to be set for the upper tier oil will be equal to the composite price mandated or allowed by Congress and the FEA.72 Expressed as a mathematical formula, the equation appears as follows, using the approximate percentage of lower and upper-tier oil in a recent period, the average price of $5.25 for lower-tier oil, and the congressionally mandated initial composite price of $7.66 per barrel of domestic production:

\[(0.6) \times (5.25) + (0.4) \times (X) = 7.66\]

\[X \times \text{(Upper tier average ceiling price)} = 11.28\]

To calculate the upper tier ceiling price for a particular grade of crude oil from a particular field it is necessary to establish a base point (i.e. September 30, 1975). The highest posted prices for crude oil on that

69. 10 C.F.R. § 212.72 (1976).
71. 10 C.F.R. § 212.72 (1976); 10 C.F.R. § 212.74(a) (1976).
date may be averaged. By subtracting from this average the X just established, one has a differential that may be used to calculate a price for different grades of crude. For example, if the base point average posted price was $12.60 and an average upper tier ceiling price of $11.28 is desired, the difference between these is $1.32, and the price of a particular grade of oil from a particular field can be calculated by subtracting $1.32 from the base point highest posted price for that grade of crude oil from that field.\textsuperscript{73}

The amendments allow for a gradual increase in the composite price to account for inflation and to give added incentive for new production.\textsuperscript{74} However, the gradual increase is limited to no more than ten percent per year without congressional approval even if inflation exceeds this percentage.\textsuperscript{75}

A perusal of the above equation should indicate that it is possible for X to decrease as more upper tier oil is found and produced or as lower tier oil decreases as a percentage of the total due to natural decline in production from old fields. That is to say, in making their business decisions, business planners must calculate that if they are successful in producing more oil, they are actually lowering the price that they may receive for it. The large surge in production of upper tier oil which is anticipated following the completion of the Trans-Alaska pipeline presents this problem in an acute form. If an adjustment is not made in the EPAA, the FEA will have to lower the price of other domestic oil by a substantial amount. The EPAA has deferred making a decision concerning this problem until April 15, 1977, when the President is to recommend a solution.\textsuperscript{76} Miscalculation of any of the figures in the equation by the FEA can lead to overcharges or undercharges that must be made up at a later time.\textsuperscript{77} The difficulty of this can be better appreciated when it is observed that each producer pays royalties to thousands of royalty owners on the basis of the price allowed on the crude oil to the producer. To make adjustments for each royalty owner may be nearly impossible.

\textsuperscript{73} Id. The author may have oversimplified the FEA’s procedure and distorted it slightly. It should be added that the FEA has calculated a table of adjustments pursuant to the authority granted in 15 U.S.C. § 757(d) (Supp. V 1975). However, the FEA has had to “freeze” the adjustments because the actual price of oil has exceeded the statutory composite price. [1976] EN. USERS REP. (BNA), No. 161, at A-8 to A-10.


\textsuperscript{75} Id.

\textsuperscript{76} Id.


\textsuperscript{77} See note 73 supra.
A third tier of crude oil prices is created by that crude which is exempt from controls. Imported crude is, of course, not subject to price limitation. In addition, the Energy Conservation and Production Act of 1976 amends the EPAA to exempt the first sale of "stripper well" oil from controls and requires amendment of the price regulations to give additional price incentives to tertiary enhanced recovery techniques. To avoid serious distortion in calculating the price of upper tier oil, "stripper well" oil is deemed to be upper tier oil for purposes of calculating the upper tier price.

To police so complex a system of price controls an elaborate enforcement mechanism has been necessary. Stiff civil and criminal penalties are provided for violation of the regulations promulgated under the EPAA. Producers and refiners are subject to massive reporting requirements concerning all production and sales of petroleum. The regulatory costs to the government and to industry are immense.

The effects of price controls on crude oil and refined products cannot be fully known at present, but certain conclusions are not premature. First, it must be admitted that the controls have, to a degree, insulated the United States from the harshness of the increases in the price of oil on the world market. Offsetting this benefit are a number of problems and undesirable effects resulting from the price controls. The controls and reporting requirements have been a costly burden on both industry and government. Problems arising from implementation and interpretation of the regulations have contributed to public distrust of the oil companies and the agencies of government regulating them. Conservation of energy has apparently been discouraged by the controls. Although the public turned to small, gasoline-stingy automobiles with the initial shock of price increases in 1974, Americans have returned to buying large, less efficient autos with the assurance from Congress that gasoline price increases will be limited for some time to come. The International Energy Agency...
AMERICAN ENERGY POLICY

(IEA) recently criticized the United States for its low oil prices which have hampered efforts to encourage conservation. American efforts to reduce consumption have not been as successful as have similar efforts by other IEA member countries, and the low prices and taxes are an important reason for this.

Uncertainty about future pricing policy has probably discouraged the development of some high-cost crude oil, and it certainly has limited the formation of capital available for such development. Also the price controls have discouraged the development of alternative energy sources. In the summer of 1975, the FEA estimated the cost of producing oil from shale at between $12.00 and $15.00 per barrel and for oil from coal at about $18.00 a barrel. If domestic crude oil were allowed to rise to the world price, these substitutes would probably become economically feasible. So long as petroleum is available at a controlled price below the price of substitutes, development of these substitutes will not take place unless they are given some form of subsidy. It should be noted that some refiners have been given special treatment by statute or regulation in a manner that suggests the use of the price controls to show political favoritism.

For states where severance taxes are calculated on the basis of a percentage of the price of oil, the price controls have artificially reduced the income available to the state. For both states and private royalty owners, the price controls on oil have controlled the amount of their royalties while prices of all that they purchase have been uncontrolled. This has contributed a feeling of ill will between producing states and consuming states. In short, it is likely that the short-term benefits received by the country from price controls on oil are outweighed by the long-run adverse effects.

Allocation of crude oil and refined products has also been necessary because of shortages. Actual shortages have been handled

88. See California v. Simon, 504 F.2d 430 (Emer. Ct. App. 1974), cert. denied 419 U.S. 1021 (1974). See address by Governor Edwin Edwards of Louisiana, Interstate Oil Compact Commission meeting, (Dec. 1974), discussing entitlements on middle distillates: “A scheme has been proposed and it is going to be engineered which, in effect, is going to result in saving the New England area $30 million. Well, let me tell you something—there’s a law of economics that when somebody saves $30 million, somebody loses $30 million. There’s no middle ground and you know who the losers are going to be—the rest of the country—you and me.” 33 OIL & GAS COMPACT BULL., December, 1974, at 4.
in several ways. One of these has been a freeze on supplier/purchaser relationships as of specified dates for crude oil, residual fuel oil and refined petroleum products. Thus, all suppliers have been required to maintain their relationships with existing purchasers rather than shift to others in a time of shortage. This freeze was inadequate to protect many refiners for they were dependent on imported crude that was not subject to the regulations. To equalize the availability of crude among refiners, the Federal Energy Office (which was superseded by the FEA) established a “buy/sell” regulation under which it issued a quarterly list setting forth the purchase opportunities and sales obligations of all domestic refiners. That is, refiners with crude oil were required to sell some of it at controlled prices to refiners lacking sufficient crude oil; the program dealt with actual shortages.

With the end of the Arab embargo the shortage of crude oil also ended. However, the multiple tier pricing of domestic oil created a shortage of “old” or lower tier price oil. The existence of this shortage required the FEA to allocate available lower price oil among refiners. Since lower price oil is physically indistinguishable from upper tier or uncontrolled oil, it would be absurd to require physical transfer of oil among refiners. To achieve the same objective of equalizing crude oil cost to all refiners, the FEA established its Cost Equalization Program or Entitlements program.

Under the Entitlements program, the FEA determines a national crude oil supply/capacity ratio which is a representation of the amount of price-controlled oil in the United States as a percentage of all oil. It then issues entitlements to refiners based on the percentages thus established. Refiners that have a higher percentage of lower priced crude oil than the national average for all refiners must, in order to process legally their own crude oil, buy entitlements from refiners that have less than the national average of lower priced oil. The value of an entitlement is set monthly by the FEA taking into account the differences between the controlled domestic oil and the uncontrolled domestic and foreign oil. This program permits the FEA to accomplish the same result as allocating the proper amounts of controlled oil among all refiners to equalize the cost of crude to all without physical transfer of the oil. A “small refiner bias” is built into the regulations to give refiners with a daily average volume of less than 175,000 barrels for

89. 10 C.F.R. § 211.9 (1976).
90. 10 C.F.R. § 211.65 (1976).
91. 10 C.F.R. § 211.67 (1976).
a particular month additional entitlements, i.e. a special subsidy.\textsuperscript{92} Refiners that must buy entitlements may increase the prices of their products, but the competitive market will not permit such a passthrough in most circumstances, so what the entitlements program amounts to is a method of transferring income from some refiners to other refiners.\textsuperscript{93}

As with the previously discussed price controls, all the effects of the entitlements program cannot be established at this time. It does equalize the costs of crude oil to refiners. As a result it avoids large regional differences in product prices and prevents refiners with lower-cost domestic oil from gaining advantages over refiners who must rely on higher priced oil. But at the same time it fails to discourage imports and, in fact, may encourage reliance on imports. What incentive does a refiner have not to import when it receives more entitlements for the more oil it imports? Might not a domestic producer's development plans be affected by the knowledge that the more oil it produces at lower tier prices, the more it will have to pay for entitlement purchases to process that oil? Such a producer may prefer to import oil at present and wait for a later day to produce that domestic oil, a day when controls are terminated and the oil's price is allowed to rise to reflect its value in relation to other oil and fuels. It is the entitlements program which leads one to doubt that controls will be removed from domestic prices for quite some time. The reason is that oil classified now as lower tier oil will continue to cost less to produce after controls are lifted than it will cost to purchase imported oil. This means integrated refiners with relatively greater access to such domestic oil will enjoy a competitive advantage over those who will have to rely on greater amounts of imported oil, and there is no indication that this will be more politically acceptable when the EPAA controls are set to expire than at the present.

There are severe problems with the entitlements program just as there are very undesirable effects flowing from price controls on crude oil. Having embarked on such a program, the way back to an uncontrolled market has become more difficult. Nevertheless, reliance on a free market mechanism is much more likely to achieve the stated goals of a sound energy policy than any other alternative.

\textsuperscript{92} Id. at (e).
\textsuperscript{93} The program has been held not to be an unconstitutional taking of property without compensation. Cities Service Co. v. FEA, 529 F.2d 1016 (Emer. Ct. App. 1975), cert. denied, 44 U.S.L.W. 3738 (1976).
II. **The Objective of Environmental Protection Must Not Predominate Over Objectives of Energy Development**

Protection of the environment has become one of the most important objectives of recent legislation and judicial decisions at both the state and federal levels. A number of federal and state acts have been passed in recent years to preserve and enhance the quality of all aspects of the environment, and they have been enforced zealously.\(^9\) Their effect, for the most part, has been salutary. However, efforts to prevent potential harm to the environment have been a major hindrance to new energy development. Absolutist goals of protection and excessive fear of pollution have significantly delayed essential energy projects.

As pointed out earlier, a major shortcoming of the market system is that it ignores certain costs referred to as externalities.\(^8\) Air and water have long been regarded as free commodities for use by anyone who wished to use or pollute them without constituting a legally recognized nuisance to another person.\(^6\) While this was acceptable so long as the capacity of the air or water to clean itself was not exceeded, pollution has gone beyond this level in recent years. People have become aware of the true costs of development and have sought ways in which to limit pollution and limit or prevent future encroachments by man on the environment. Some have gone too far, assuming that the existence of any pollution is bad in itself and that no new development should take place that threatens harm to the environment.\(^7\) Adverse environmental impacts from a project should be limited, but it is inevitable that they will occur; it will be impossible to maintain a decent standard of living without accepting some compromises on environmental protection. How and where these compromises should be made are the subject of this and the next section. Identifying the areas in which environmental concerns have impeded energy development will suggest the problems involved.

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95. See note 14 supra.


Perhaps the most notorious case of environmentalists blocking a vital energy project is the Trans-Alaska Pipeline controversy.\(^98\) This confrontation grew out of the discovery of large quantities of oil on the North Slope of Alaska bordering the Arctic Sea in 1967 and 1968. The Trans-Alaska Pipeline System (TAPS) was formed in 1968 by a group of companies to transport the crude oil, estimated to be about two million barrels per day (more than twelve percent of total domestic consumption), to a location from which it could be carried by tanker to the lower forty-eight states.\(^99\) In February, 1969 TAPS applied for right-of-way permits from the Department of Interior to allow construction of the pipeline across federal lands. A special governmental task force was created to scrutinize all aspects of the project. The Interior Department finally determined that it would grant the permits if certain steps were taken to insure protection of the delicate environment where the pipeline would be located. The project then ran afoul of two pieces of legislation: the Mineral Leasing Act of 1920\(^100\) and the National Environmental Policy Act of 1969 (NEPA).\(^101\)

On January 1, 1970 NEPA was signed into law. Deceptively innocuous in appearance, NEPA has become a tool for modifying or halting virtually any type of activity in which the federal government participates.\(^102\) Section 102(2)(c) of NEPA has been the most important provision of the Act. It requires that an environmental impact statement (EIS) be filed for “every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment . . . .”\(^103\) Although the Act states briefly what should be included in the impact statement, it is so general that almost any impact statement can be challenged on the grounds that it is “inadequate” in that it fails to consider all reasonable alternatives or all environmental impacts. The Act does not expressly give anyone the right to sue for alleged violations, but the courts have consistently held that private parties may bring an action even if the

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99. Myers, supra note 98, at 917 n.9.
possibility of an adverse effect on an interest of the complaining party is speculative and remote.\textsuperscript{104}

To comply with the requirements of the then just enacted NEPA, the Interior Department released a brief statement discussing the probable impact on the environment affected by the portion of the pipeline project for which a permit was to be issued. A week later several environmentalist organizations sought and were granted an injunction against the project on the grounds that the permit was for a wider right-of-way than allowed by the Mineral Leasing Act.\textsuperscript{105} A wider right-of-way was essential because the proposed pipeline was wider than pipelines in use when the statutory limitation was imposed.

Two years later the pipeline system, now named Alyeska, again filed for a right-of-way and temporary use of such land as would be necessary for construction of the pipeline. The Interior Department granted the permits, but the Circuit Court of Appeals for the District of Columbia enjoined the project again.\textsuperscript{106} This time the complaint alleged not only violation of the Mineral Leasing Act but also of NEPA. A massive environmental statement costing some nine million dollars had been issued after extensive hearings and studies, but the environmentalists alleged that alternative routes for the crude oil had not been adequately treated in the EIS. Judge Wright said that the temporary use permits were not authorized by the Mineral Leasing Act but declined to decide the NEPA claims.\textsuperscript{107}

The only way to break the impasse between the proponents of the project and the environmentalists was a congressional act specifically authorizing the pipeline and exempting the Interior Department from further NEPA compliance.\textsuperscript{108} By the time this occurred in November, 1973, the project had been stalled nearly four years and its costs had

\textsuperscript{104.} Sierra Club v. Morton, 405 U.S. 727 (1972) remains the authoritative statement of standing requirements. That these are easy to meet is illustrated in Sierra Club v. Mason, 351 F. Supp. 419 (D. Conn. 1972) and Scientists' Inst. for Public Information, Inc. v. AEC, 481 F.2d 1079 (D.C. Cir. 1973).

\textsuperscript{105.} Wilderness Soc'y v. Hickel, 325 F. Supp. 422 (D.D.C. 1970). As pointed out by Senator Dominick and David Brody, the Mineral Leasing Act "has been no more than a vehicle or an expedient used by all parties and by the judicial branch in order to present to the Congress the real issue—Whether the Alaska pipeline should be constructed, not whether the oil companies get fifty feet instead of two hundred in order to do so." Dominick & Brody, supra note 98, at 386.


\textsuperscript{107.} 479 F.2d at 891.

increased tremendously. It is doubtful that the delay produced significant benefits to the environment, and failure to bring the North Slope oil to refineries has prevented the United States from decreasing its reliance on imported oil.

Environmental concerns and NEPA have also hindered development of oil and gas resources on the Outer Continental Shelf (OCS). Sales of leases on the OCS in the Gulf of Mexico have been enjoined on the grounds that an environmental impact statement was inadequate in its discussion of alternatives to the proposed sale, even when those alternatives to the sale were beyond the authority of the Department of the Interior which is responsible for OCS leasing. Environmental hearings and compilation of data for an EIS in compliance with NEPA have delayed opening up new areas for OCS drilling and production. A holding by a federal district court judge that an EIS was inadequate nearly prevented the first lease sale of the Atlantic OCS. Public outcry and fear of further oil pollution following the large spill in the Santa Barbara Channel in January, 1969 resulted in a long shutdown of offshore production in that area. Several bills with strong support were before the ninety-fourth Congress to amend the Outer Continental Shelf Lands Act. These would have added other provisions in the name of protection of the environment further hindering production of OCS oil and gas.

Continued production from, and new development of, oil and gas reservoirs onshore have recently been threatened by proposed regulations under the Safe Drinking Water Act. Although this act specifically provides that the federal regulations to be adopted for underground injection control programs "may not prescribe requirements which interfere with or impede—(A) the underground injection of brine or other fluids which are brought to the surface in connection with oil or natural gas production, or (B) any underground injection for the secondary or tertiary recovery of oil or natural gas, unless such require-
ments are essential to assure that underground sources of drinking water will not be endangered by such injection," the regulations which have been developed by the Environmental Protection Agency could have a significant adverse effect on oil and gas production. Federal regulations of this nature may be superfluous, since state regulatory bodies have for years adequately protected water resources from contamination by oil and gas operations.

Turning from oil and gas operations to hard minerals, environmental laws, regulations, and litigation have hindered coal development and utilization in several ways. Concern that the coal leasing program on federal lands had "gotten out of hand" caused the Department of the Interior to halt all sales of coal leases in 1971 pending a revision of departmental regulations. The moratorium was lifted as of June 1, 1976 in conjunction with the promulgation by the Interior Department of the Energy Minerals Activity Recommendation System (EMARS). While EMARS appears to be a workable system, nevertheless the time it has taken to develop has been lost time for coal development, and as a new system it has points of interpretation that will lead to uncertainty for some time.

Just on the heels of the adoption of EMARS Congress enacted the Federal Coal Leasing Amendments Act. Becoming effective after the override of a presidential veto, this Act amends the Mineral Leasing Act of 1920. It will probably cause still further substantial delays in coal development on federal lands. One of its requirements is that no lease sale may be held unless the lands containing the coal deposits have been included in a comprehensive land use plan and the

117. An Interstate Oil Compact Commission resolution of June 30, 1976 declared: "The state regulatory agencies estimate that if the recent draft regulations went into effect it would cause a loss of production of over 500,000 barrels of oil per day and in excess of 2.5 billion cubic feet of gas per day. All of this is from existing wells that have been producing for a number of years with virtually no adverse impact on the environment." 35 OIL & GAS COMPACT BULL., June, 1976, at 13.
sale is compatible with the plan. Development of such land use plans will be fraught with difficulty and could take years to implement.

Additional uncertainty in coal leasing on federal lands has been caused by a NEPA challenge to the Interior Department's approach to preparation of environmental impact statements for coal leases. The Interior Department has elected to prepare regional environmental impact statements covering regions distinguished by common basin boundaries, drainage areas, economic interdependence, or other common characteristics. The Sierra Club and other organizations challenged this under NEPA on the grounds that an EIS should cover a much larger area since later decisions on development in the area will be affected by the earlier decision. More specifically, the Sierra Club maintained that the EIS for the Powder River Coal Basin in Wyoming covered too small an area; instead, they claimed, the EIS should embrace the entire four state area known as the "Northern Great Plains region." The United States Court of Appeals for the District of Columbia reversed the trial court's denial of an injunction against leasing and remanded for a determination whether the action was ripe for preparation of a larger EIS. The Supreme Court, however, reversed this decision and held that the EIS for the smaller region would suffice. The opinion probably represents a general cutting back by the Court on the reach of NEPA.

Despite hindrances to coal development on federal lands, a great amount of coal has been available. Some of it may not be utilized, however, because burning it will produce air pollution which is prohibited by the Clean Air Act of 1970. The Clean Air Act, as amended, provides an elaborate system for achieving national primary and secondary ambient air quality standards through federal standards for new sources and state implementation plans. To limit or reduce levels of pollution in the air, the new source standards and state plans require that sources of pollution produce no more than specified amounts or concentrations of particular pollutants. Sulfur oxides, nitrogen oxides, and particulate matter are three important classes of pol-

olution that are limited. Much coal currently produced in the United States is relatively high in sulfur content and when burned leads to dis-
charges of sulfur oxide. Large quantities of particulate matter are also produced when coal is burned. Technology is not yet advanced sufficiently to provide reliable methods of removing the pollutants when emitted into the air. To comply with state and federal requirements, only coal with low sulfur content may be burned. This effectively limits coal utilization in many circumstances. Recognizing this, Congress in 1974 amended the Clean Air Act once again in the Energy Supply and Environmental Coordination Act. The amendments are, however, so stringent that it is doubtful that they facilitate the greater use of coal. The Clean Air Act requirements are especially difficult because they have been interpreted by the courts as prohibiting any significant deterioration in the air quality of a region. This limits development of almost any sort that produces pollution, particularly in industries that might otherwise wish to rely on a comparatively dirty fuel like coal.

Fear of potential harm to the natural environment and to people has been a major obstacle to greater use of the potential that nuclear power holds for the future. Opposition to increased nuclear power generating capacity has been widespread and has produced important litigation interpreting the requirements of NEPA. In the case of Calvert Cliffs' Coordinating Comm., Inc. v. AEC, Judge Wright held that the Commission [now succeeded by the Nuclear Regulatory Commission] has to “take the initiative of considering environmental values at every distinctive and comprehensive state of the process” of reviewing applications for licenses for nuclear facilities. Commission procedures had to be revised to comply with the decision.

128. 40 C.F.R. §§ 50.4-.7, .11 (1975).
131. See Pollution Legislation, supra note 127, at 517-18.
134. ENERGY POLICY PROJECT OF THE FORD FOUNDATION, A TIME TO CHOOSE: AMERICA'S ENERGY FUTURE, 203-25 (1974); ENERGY ALTERNATIVES: A COMPARATIVE ANALYSIS, chs. 6-7 (1975).
135. 449 F.2d 1109 (D.C. Cir. 1971).
Judge Wright was also responsible for the decision in the case of Scientists' Institute for Public Information, Inc. v. AEC. Here the court held that NEPA required an EIS to be prepared for a research program on the liquid metal fast breeder reactor, even though the research program itself would have no environmental impacts beyond those of individual facilities—for which the AEC planned to prepare statements. Wright reasoned that the commitment of funds to this program itself precluded or at least hindered the development of other programs that might have fewer adverse impacts.

Where nuclear plants will be built is an especially important question for the future. The Energy Reorganization Act of 1974 requires the Nuclear Regulatory Commission to make a national survey to locate and identify possible nuclear energy center sites. Although this seems to be a step toward establishing new nuclear power plants, it could be a possible source of delay: development may be slowed while the survey is being undertaken, and many promising sites may be ruled out on environmental grounds.

What has been discussed thus far on environmental impacts on energy development is only a brief treatment of a large subject. It is sufficient to indicate that environmental concerns have significantly hindered and threaten to further hinder the development of American energy resources. Some limitations are necessary if we are to have pleasant and healthy surroundings and fulfill our commitments to future generations, but fear of adverse impacts on the environment should not be allowed to preclude or unnecessarily delay essential energy development. Compromises must be made in order to have both environmental protection and assured supplies of energy. Who is to make such compromises?

III. NATIONAL GOALS MUST PREVAIL OVER STATE AND LOCAL INTERESTS

All states are consumers of energy, but some of the most populous states with high energy demands produce little or no energy and must rely on imports from other states and abroad. Even though not producers, these states may have locations for the processing of energy

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137. 481 F.2d 1079 (D.C. Cir. 1973).
supplies, such as sites for refineries or ports where crude oil arriving by sea may be landed, or they may be adjacent to production areas, such as the Outer Continental Shelf. Other states export more energy than they consume and rely upon taxation of energy as a major source of their revenue. These factors raise many points of possible conflict among the states and between particular states and the federal government.

Conflict over control and use of petroleum has existed for many years in the United States. As early as 1911, the United States Supreme Court struck down an Oklahoma statute prohibiting the transportation of natural gas out of the state. The Court admitted the right of the state to control and prohibit waste, but concluded the state's purpose was commercial in nature, and not for the purpose of conservation. Mr. Justice McKenna, speaking for the Court, stated:

The statute of Oklahoma recognizes it [natural gas] to be a subject of intrastate commerce, but seeks to prohibit it from being the subject of interstate commerce, and this is the purpose of its conservation. In other words, the purpose of its conservation is in a sense commercial—the business welfare of the State, as coal might be, or timber... To what consequences does such power tend? If one State has it, all States have it; embargo may be retaliated by embargo, and commerce will be halted at state lines.

For similar reasons, the Supreme Court in 1923 invalidated a West Virginia statute which required pipeline companies to give West Virginia consumers a preferred right to purchase over consumers in other states. The statute then was an unconstitutional burden on interstate commerce.

After the Supreme Court held that the Federal Power Commission was required to regulate the field price of natural gas, several cases came before the Court in which states had attempted to prevent sales of natural gas at prices thought to be too low by the state's regulatory agency for petroleum. In *Natural Gas Pipeline Co. v. Panoma*, the Supreme Court held that an Oklahoma Corporation Commission order fixing the minimum price for natural gas was invalid because it conflicted with the authority of the Federal Power Commission to set

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139. West v. Kansas Natural Gas Co., 221 U.S. 229 (1911).
140. *Id.* at 255.
142. 349 U.S. 44 (1954). Without such FPC preemption, the Court had previously held such an order to be valid. *Cities Service Gas Co. v. Peerless Oil & Gas Co.*, 340 U.S. 179 (1950).
prices. The Court set forth its preemption position in more detail in
Northern Natural Gas Co. v. State Corporation Commission of Kansas,
wherein the Court struck down orders which required an interstate
pipeline company to purchase natural gas ratably from all wells
connecting to its pipeline system.\textsuperscript{143} The Court held that the “federal
regulatory scheme leaves no room either for direct regulation of the
prices of interstate wholesales of natural gas . . . or for state regula-
tions which would indirectly achieve the same result.”\textsuperscript{144}

More recently the Supreme Court has upheld a lower court’s deci-
sion which struck down regulations by the Oklahoma Corporation
Commission forbidding the sale of natural gas at prices below twenty
cents per thousand cubic feet.\textsuperscript{145} The three-judge panel had found
that “the orders in question would burden interstate commerce by
indirectly fixing prices to interstate consumers,”\textsuperscript{146} and that the orders
“conflict with the jurisdiction of the Federal Power Commission under
the Natural Gas Act.”\textsuperscript{147}

Although the state may not fix a minimum price for the natural
gas or oil in interstate commerce, it may place a gross production or
severance tax on petroleum either at a flat rate per volume\textsuperscript{148} or as a
percentage of its value.\textsuperscript{149} Such taxes are not unconstitutional despite
the fact that they obviously act to raise the price or to set a minimum
price for the oil or gas above the sale price. The states with a large
volume of production enjoy considerable revenue from taxes on the
petroleum produced.\textsuperscript{150} However, these states recognize that the oil
and gas reserves will become depleted within a relatively short span
of time, and the revenue which they now receive will cease. These
same producing states may also receive revenue from royalties on oil
and gas produced from state lands: when the state leases state land
it will retain a royalty interest and will be able to receive the proceeds

\textsuperscript{144} \textit{Id.} 372 U.S. 91.
\textsuperscript{145} Oklahoma Corporation Comm’n v. FPC, 362 F. Supp. 522 (W.D. Okla. 1973),
\textsuperscript{146} 362 F. Supp. at 533.
\textsuperscript{147} \textit{Id.} at 537.
\textsuperscript{148} Ohio Oil Co. v. Conway, 281 U.S. 146 (1929).
\textsuperscript{149} Hope Natural Gas Co. v. Hall, 274 U.S. 284 (1927). \textit{See generally} Hartman,
\textit{The Commerce Clause and the States’ Power to Tax the Oil and Gas Industry}, \textit{7th
Oil & Gas Inst.} 387 (Matthew Bender 1956); Note, \textit{Federal Limitations on State
\textsuperscript{150} \textit{See} Barsh, \textit{The Goal of Energy Self-Sufficiency in the State of Louisiana}, \textit{17
Interstate Oil Compact Comm’n Comm. Bull.} 18 (December, 1975); \textit{Talley, Texas
Energy Self-Sufficiency}, \textit{id.} at 32.
from the sale of oil or gas produced or will have the right to take the oil production in kind.\textsuperscript{161} In addition, the state may receive revenue through taxation of the income of a producer or seller or of the income of a royalty owner.

The impact on producing states' economies of federal price controls on oil and gas can be significant. Price controls on the wellhead price of oil and gas can limit the revenue available to a producing state from gross production or severance taxes if such taxes are based on a percentage of the sales price. The price controls have been applied to state royalty oil, and this directly limits the revenue to a state from the sale of its own oil.\textsuperscript{162} Since the price controls limit the income available to producers of oil, they limit the income taxation to the state on that income. Thus the producing states sometimes feel that their resources are passing into other hands and the consuming states are preventing them from receiving their fair portion of the value of their resources; once the petroleum has been produced this tax base is gone forever. The other side of the coin is that consuming states may feel that the severance taxes are unwarranted and unnecessarily raise the price of the minerals. One author has referred to states with such severance taxes as "resource profiteers."\textsuperscript{163}

As pointed out in the first section of this essay, the historically low Federal Power Commission price controls on natural gas in interstate commerce have had the effect of forcing gas into the intrastate market. In response, the Federal Power Commission has made strong efforts to insure that once natural gas from a field has become subject to Federal Power Commission jurisdiction, the gas in that field will remain subject to its jurisdiction.\textsuperscript{164} Some producing states have taken steps to retain natural gas within their borders short of the measures previously described which were found to be unconstitutional.\textsuperscript{165} The upshot has been an effort in Congress to bring all gas presently in intras-
state commerce under Federal Power Commission price control. It is undesirable for each producing state to try to serve its own purposes through regulation of natural gas to keep it within the state, but the solution is not to subject all of it to Federal Power Commission control; rather, the problem could best be resolved by removing all new natural gas, and gas under expiring contracts, from federal controls.

The situation is further complicated by the fact that certain of the consuming states are attempting to hinder efforts to develop additional energy supplies that would have an impact upon them. Some of the producing states have for years accepted the burdens and risks of oil and gas development, including the risks of oil spills affecting coastal areas. Now they find some consuming states fighting federal efforts to open new offshore areas for oil and gas development. Most of the Atlantic seabord states laid claim to ownership of the Atlantic Outer Continental Shelf far beyond the three miles granted in the Submerged Lands Act of 1953. The Supreme Court recently cleared the way for mineral leasing on the Atlantic Outer Continental Shelf by denying those claims.

The assertions now being made to delay further the development of new Outer Shelf areas are based on environmental considerations. It is well recognized that a state may “burden” interstate commerce if the state is exercising its power to shelter its people from menaces to their health or safety. California and several of the Atlantic states have claimed that while they cannot stop exploration and production on federal Outer Continental Shelf lands, they can prohibit, under their police power, the construction and use of facilities, such as pipelines and refineries, on state lands that would be necessary for development to take place on federal lands. Since the federal government has comprehensive controls for protection of health and safety from development activities, it is arguable at least that the state regulation would be unnecessary and hence an unreasonable and impermissible restraint on interstate commerce. One might also make an argument under the supremacy clause of the Constitution that by asserting its

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156. See note 49 supra.
authority in this area the federal government has preempted the field from further state regulation. However, it is to be noted that the states opposing development could counter this by relying upon the Coastal Zone Management Act of 1972 which gives the coastal states the right to veto federal issuance of a license or permit to conduct an activity affecting land or water uses in the coastal zone of the state which would be inconsistent with the state's coastal zone management program. The Coastal Zone Management Act will require federal/state coordination for Outer Continental Shelf development, but the Act should not be used as a means for coastal states to apply leverage to obtain from Congress the right to share in the Outer Continental Shelf lease sale proceeds and subsequent royalties, a right they do not presently have under the Outer Continental Shelf Lands Act. At present, there are proposals in Congress to amend this Act to give a share of the federal royalties to the coastal states and to give such states a greater role in Outer Continental Shelf leasing.

Over objections by the Department of the Interior and a presidential veto, Congress, as previously noted, recently enacted extensive amendments to the Mineral Leasing Act of 1920 with respect to coal. Prior to the amendments, states in which federal coal lands were located received thirty-seven and one-half percent of the royalties paid to the federal government for coal produced from within their borders. Because it was believed that the royalty rate was too low and that the states involved should receive a greater share of the royalties, the amendments require a royalty rate of at least twelve and one-half percent of the value of coal and one-half of this will go to the state in which the federal coal is located. The effect of these changes will be to make the coal less desirable for development, increase the cost of the coal to consumers, and to give the states in which the coal is located a greater share of money paid for coal which had been owned by all the people of the United States. It is open to question whether

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162. See generally Rubin, The Role of the Coastal Zone Management Act of 1972 in the Development of Oil and Gas from the Outer Continental Shelf, 8 Nat. Res. Law. 399 (1975).
the states involved bear so large a burden from coal development as to justify their receiving one-half of all the benefits from this public resource. It is possible that congressional representatives from Atlantic seaboard coal consuming states supported the amendment in anticipation of receiving western state support for amendments to the Outer Continental Shelf Lands Act to provide for a coastal state share of Outer Continental Shelf petroleum royalties.

Land reclamation after coal has been strip-mined from federal lands could also be a source of controversy in instances where the state has stricter standards for reclamation than has the federal government. The Department of the Interior has attempted to circumvent this by providing that where state requirements are as stringent as, or more stringent than the federal government's, the Interior Department will adopt the state's requirement for the federal lands within that state. This is a creative method of avoiding state/federal conflict. Recognizing, however, that national requirements must prevail over local interests, the Department of the Interior will refuse to apply the state laws if they "would unreasonably and substantially prevent the mining of Federal coal" and "it is in the overriding national interest that such coal be produced without such application of such requirements."168

Energy facility siting is another area that promises to promote conflict among organizations and government at the local, state and federal levels.169 New refineries, new coal-fired electric generating stations; and new nuclear power plants will have to be built within the United States. The question is where, and who should determine where, they will be constructed. Local opposition has successfully killed or suspended efforts to establish such facilities in various parts of the country as diverse as Seabrook, New Hampshire and southern Utah.170 State laws may have complex plans for implementing federal air and water pollution standards, as well as coastal zone planning, that allow new facilities in few areas, if any. Thus the state of Delaware absolutely prohibits oil refineries, among other things, from its coastal zone.171

168. 30 C.F.R. § 211.75 (1976).
171. DEL. CODE ANN. tit. 7, ch. 70, §§ 7002-7003 (1974). It should be noted that the Coastal Zone Management Act does provide that prior to granting approval to a
Other states have considered prohibiting nuclear plants within the state. If each state is able to ban refineries, nuclear plants and the like, it can prevent entirely the completion of necessary facilities.\textsuperscript{172}

Congress and the courts have been responsible for much of the conflict that exists with respect to new energy projects and plants. In amendments to the Clean Air Act\textsuperscript{173} and the Federal Water Pollution Control Act\textsuperscript{174} Congress has specifically granted the right to private citizens and organizations to bring suit against state and federal agencies for their policy decisions when they are felt to be outside the discretion of the government officials. This has been virtually an open invitation to sue. Courts have encouraged such litigation by allowing any party with a claim of personal injury, however indirect or attenuated, to have standing to bring suit.\textsuperscript{175} This has opened wide the doors of the courts and has led to a plethora of cases; it has allowed courts to set aside or delay national policy judgments in favor of particularized or local interests. In other instances, such as the Coastal Zone Management Act discussed previously, and the Deep Water Ports Act,\textsuperscript{176} Congress has given state officials veto power over projects.

All of this is not to say that the goals sought to be attained by particular individuals and groups are not desirable goals or that the views and interests on the local and state level should be ignored in setting national policy. What is suggested is that at present there are too many opportunities for the national interest to be overridden by more narrow concerns, and for necessary actions to be delayed by private groups who are ultimately responsible only to themselves. Local interests must give way to national policy if we are to have a sound and effective energy policy. The final responsibility for decision-making on energy policy must be with officials who are accountable to the public and who have the broad perspective necessary to make reasonable

\footnotesize{\textsuperscript{172} The question of state efforts to limit the use of nuclear energy has been avoided by strong voter approval of expansion of use of nuclear power in six states which voted on citizens' initiatives aimed at imposing tough restrictions on nuclear power. Wall St. J., Nov. 4, 1976, at 4, col. 1.


\textsuperscript{175} See note 104 supra.

\textsuperscript{176} 33 U.S.C. §§ 1503(c)(9), 1508(b)(1) (Supp. V 1975).}
accommodations between energy demand, environmental protection and other aspects of the public interest.

IV. Conclusion

There are no simple solutions to the energy problems of the United States. But approaching the problems will be less difficult if organizing principles may be agreed upon. The foregoing essay has been an attempt to specify several such principles that could serve as a guide to future energy policy planning. The economic well-being and the security of the nation are dependent upon the establishment of a more workable approach to energy policy. Too much is at stake for us to continue to follow the inept and counterproductive programs of the past few years. Until policies can be made consistent with one another by establishing a consensus upon the basic principles to be followed in setting particular policies, we will continue to have an impoverished American energy policy.