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WESTERN COAL IN CONTEXT

BY A. DAN TARLOCK*

I. INTRODUCTION: THE REBIRTH OF COAL

Until around 1950, coal was the United States' primary energy source; after that oil and gas replaced coal. Between 1950 and the present, coal was reduced from a diversified raw material to a two market commodity, boiler fuel for electric utilities and coking for steel plants.¹ In the 1950's, this fuel switch was hailed as progress because, compared to coal, oil and gas are cheaper, safer and cleaner to extract and use. Given the competitive advantages of oil and gas, coal's demise was probably inevitable. The demise was hastened, however, by a joint petroleum industry—government decision after World War I to supplement domestic with foreign oil reserves. In the 1920's, major U.S. oil companies were encouraged to expand overseas because of fears of 1) domestic shortages and 2) an Anglo—Dutch monopoly in Iran and the Anglo-Franco monopoly in the riches of the former Ottoman Empire.² The major oil companies responded by developing fields in the Middle East, Latin America, Africa and the Far East. American foreign policy, despite efforts during the Roosevelt era to purchase the Arabian American Oil

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1. *The Coal Industry: Problems and Prospects—A Background Study for the Permanent Subcomm. on Investigations of the Comm. on Government Affairs*, 95th Cong., 2d Sess. 48 (1978).

2. This history has been told many times. The general reader might start with A. SAMPSON, *THE SEVEN SISTERS* (1976). A good account of the Roosevelt Administration's attempt to bring the world oil market under international control and the subsequent shift in United States policy from support of the majors to support of the nations of the Middle East is S. KLEBANOFF, *MIDDLE EAST OIL AND U.S. FOREIGN POLICY WITH SPECIAL REFERENCE TO THE U.S. ENERGY CRISIS* (1974). A more scholarly account of government and oil company relations with Saudi Arabia and the continual tension between the Saudi's need for revenues and political and other factors that required production limitations is I. ANDERSON, *ARAMCO, THE UNITED STATES, AND SAUDI ARABIA* (1981).

Company (ARAMCO), supported the power of the major oil companies until at least the 1960's.

After World War II, instability in foreign fields grew as a result of increased European demands for oil and gas and the realization by the oil producing countries that oil was power and the means to end Western dominance. An event of signal modern importance occurred in the mid-1950's when the U.S.S.R. began dumping oil in Western European markets. Western oil companies reduced prices, and hence royalties, to compete. This price war outraged the producing nations and led to the formation of OPEC and the oil embargo of 1973 which coincided with the long-projected decline in domestic oil production. The realization that our dependence on foreign sources of oil was growing forced the United States to turn inward for energy supplies to protect itself against future, costly supply disruptions.³

In the political world of the 1970's, a policy of energy self-sufficiency or independence seemed the only way to avoid the risks of supply disruption.⁴ To counter Russian penetration of the Middle East, our government had gradually changed its policy from one that viewed the producing political states as appendages of the major oil companies to one designed to produce powerful, independent sovereign states capable of buffering Soviet influence.⁵ This policy sanctioned the various nationalization or concession-renegotiation efforts. The oil companies adjusted to the new reality helped by a federal tax law that allowed royalty payments to foreign governments to be classified as foreign taxes for which a credit was available, rather than

3. These developments are examined from a Marxist perspective in J. STORK, *MIDDLE EAST OIL AND THE ENERGY CRISIS* (1975). The book contains a useful discussion of the growth of Arab nationalism and its impact on OPEC oil policies between 1960 and 1973. A study originally prepared for Standard Oil of California (SoCal) as a result of the 1953 anti-trust case filed against the five largest U.S.-based international firms traces the steady increase in "effective competition" within the industry and credits the Soviet's dumping practices with a large role in bringing this about. "USSR *export* sales to non-Communist countries . . . served to reduce the concentration of the Western Oil Industry." N. JACOBY, *MULTINATIONAL OIL* 166 (1974).

4. After an exhaustive survey of the problems of supply disruption, the John F. Kennedy School of Government of Harvard University's Energy and Security Research Project recommends three policies to cope with short term emergencies: filling the strategic Petroleum Reserve; stepping-up conservation and fuel switching measures that can be put in place in emergencies; and allocating shortfalls by taxation rather than rationing. *ENERGY AND SECURITY* 391-96 (D. Deese & J. Nye eds. 1981). However, it concludes that "[t]he highest priority must be placed on putting U.S. energy affairs in order It is important to continue demand reduction and supply enhancement measures to reduce our dependence over time." *Id.* at 398.

5. See sources cited at note 2 *supra*.

as deductible business expenses. Thus, in 1973 the United States was in no position to take back the power that it had helped create for political reasons, and military operations were not seriously considered.

Energy independence must be achieved by efficiency-promotion policies that are subject to a general equity constraint. Our basic energy policy is simultaneously to decrease demand and to increase supply. The policy is implemented by mandatory conservation, conservation induced by pricing domestic supplies at their world replacement costs, and increased production, and use, of domestic supplies.⁶ Because the amount of domestic oil reserves is unknown, but is by all accounts insufficient to meet future demand,⁷ and, because renewable resources are not yet commercially exploitable on a large enough scale, the successful achievement of domestic energy supply independence is widely thought to require a return to coal.⁸ The World Coal Study has stated the argument quite simply: "Unlike oil,

6. The most authoritative document is the Carter administration's EXECUTIVE OFFICE OF THE PRESIDENT: ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN (1977). It is too early to tell what the final shape of the Reagan Administration's energy policies will be, but it is likely that the current administration will continue to rely on replacement cost pricing by accelerating, if politically possible, the de-regulation of natural gas prices and on the development of domestic oil, gas and coal. Mandatory conservation, renewable energy, solar research, and federal subsidization of synthetic fuels and oil shale technologies will be downgraded. See Hershey, *Winning the War on Energy*, N.Y. Times, Oct. 11, 1981, § 3, at 1, col. 2.

7. Even the American Petroleum Institute (API) in its brief for all-out development of oil and gas, especially on federal lands, admits that the amount of future supplies is unknown and that the most optimistic estimate of 1980 production of oil and natural gas liquids is 10.4 million barrels a day compared to about 10 million presently. Natural gas estimates range from 12.5 to 20.9 trillion cubic feet compared to about 19 trillion cubic feet today. The most optimistic United States Geological Survey estimate quoted by the API is that resource capability will not affect domestic oil and gas production for 30 to 50 years, and the big hope lies in the development of federal lands. AMERICAN PETROLEUM INSTITUTE, TWO ENERGY FUTURES: A NATIONAL CHOICE FOR THE 80's 34-46 (1980). See also R. KNOWLES, AMERICA'S ENERGY FAMINE: ITS CAUSE AND CURE (1980).

8. Two studies of United States energy policy published in 1979 endorsed this policy: NATIONAL RESEARCH COUNCIL COMMITTEE ON NUCLEAR AND ALTERNATIVE ENERGY SYSTEMS, RESOURCES FOR THE FUTURE, ENERGY IN AMERICA'S FUTURE (1979); NATIONAL ACADEMY OF SCIENCE, ENERGY TRANSITION: FINAL REPORT (1979). A third study, R. STOBAGH & D. YERGIN, ENERGY FUTURE: REPORT OF THE ENERGY PROJECT OF THE HARVARD BUSINESS SCHOOL (1979) disputes this conclusion arguing that renewable resources are the wave of the future and that "coal will not become a near term solution to the energy problem," although the authors admit that its use will grow. *Id.* at 124. The Carter Administration's National Energy Plan, called for a 1 billion ton per year increase in coal use that would be accomplished by a combination of increased production and a tax and regulatory program to promote conversion. *Id.* at 63-68. In the end only the regulatory program was enacted. See note 39 *infra*.

the reserve base for coal is sufficiently great to support large increases in production for a long time into the future. Moreover, the technology for its safe and environmentally acceptable production, transport, and use is proved and already widely applied in most areas."⁹

II. WESTERN COAL AND ENERGY INDEPENDENCE

Because coal is this country's largest conventional energy source, it is not surprising that energy planners have turned to coal as an intermediate term (fifty to 100 years) or long-term (more than 100 years) energy source until renewable-resource technologies are perfected.¹⁰ It is equally unsurprising that energy planners and energy companies have shown a great interest in western coal. Although western coal is lower in heat content than eastern and mid-western coal, it is relatively cheaper and safer to mine and to burn.¹¹ Moreover, the resource is largely untapped. More than one-half of all domestic reserves are located in the West.¹² About sixty-five percent of all western coal is owned by the federal government, (much of it as retained mineral rights), and much of the rest of the resource is owned by Indian tribes and the states. It is widely stated that the federal government controls about eighty percent of western coal.¹³

9. *Final Report of the World Coal Study: Coal—Bridge to the Future* in *Hearing Before the Subcomm. on Energy and Power of the Comm. on Interstate and Foreign Commerce*, 96th Cong., 2d Sess. 4 (1980). The full report is C. WILSON, *COAL—BRIDGE TO THE FUTURE: REPORT OF THE WORLD COAL STUDY* (1980).

10. THE NATIONAL ENERGY PLAN, *supra* note 6, at 63. The most ambitious attempt to estimate future world coal use is W. HÄSELE, *ENERGY IN A FINITE WORLD: A GLOBAL SYSTEMS ANALYSIS* 569-74 (1981).

11. Coal is classified according to its (1) type, (2) sulfur and ash content, (3) heat content, (4) moisture content, and (5) chlorine content. There are five coal types, anthracite, bituminous, subbituminous, lignite, and peat, depending on the geological age of the deposit. The older and harder the coal is the less moisture and the more heat content it has; "old" eastern coal is more heat efficient than "newer" subbituminous or lignite western coal. Western coal is more easily recoverable, however, because it can be stripped rather than be recovered from deep mines, and it has a lower sulfur content. OFFICE OF TECHNOLOGY ASSESSMENT, *THE DIRECT USE OF COAL* 55-64 (1979).

12. The four conventional resource subclassifications are:

1. *Recoverable reserves*. These are the known deposits, less deposits withdrawn from development, recoverable under present technology.
2. *Reserves*. These are deposits that are assumed to be mineable by virtue of their geological characteristics.
3. *Coal resources*. These are the total of known and presumed deposits regardless of whether they can or cannot be mined for either political or technical reasons.
4. *Estimated total resources*. These are all of the above plus estimates, drawn from geological data, of future discoveries or deposits. *Id.* at 56.

13. AMERICAN PETROLEUM INSTITUTE, *TWO ENERGY FUTURES*, *supra* note 7.

Because the Department of the Interior controls most western coal resources, one might assume that it would quickly integrate its activities into general federal energy-independence policies by increasing coal production from federal lands and federally-owned mineral rights. The opposite has been the case, however. In fiscal 1980, federal lands produced only 71.9 million out of total domestic production of 833 million tons,¹⁴ or 8.6 percent of the country's coal production; and an increasing amount of this production was for export to Japan.¹⁵ This figure, however, is certain to rise in the future. In 1979-80, the federal government put into place a complicated coal leasing program after a decade-long effort, and the current Secretary of the Interior has made increased coal production from federal lands a high priority.¹⁶ Still, western coal production and use remains controversial, and the success of the new leasing program and a bright future for western coal are not assured.

The assumption that an increase in coal supply would lead to an increase in coal use rests on the further assumption that there is a strong market demand for increased coal supplies. This assumption was not true in 1973 and is still largely untrue. Federal coal policy since 1973 can be seen as an exercise in futility because incentives for coal use were quickly cancelled by disincentives adopted in the name of regional political equity. The market was weak in 1973 because many utilities had converted to oil and gas because of fears of domestic supply interruptions from strikes by mineworkers and railroad employees.¹⁷ Further, the passage of the Clean Air Act of 1970 made coal use unattractive to utilities, although in 1974 Congress tried to force utilities to revert to coal.¹⁸ Originally, midwestern and southeastern utilities had strong incentives to consider conversion to western coal or to build new plants capable of burning this

14. U.S. DEPT. OF INTERIOR FEDERAL COAL MANAGEMENT REPORT: FISCAL YEAR 1980 (1980).

15. *Final Report of the World Coal Study*, *supra* note 9, at 26-218.

16. *Interview with James Watt, Secretary of the Interior*, FED. LANDS, August 17, 1981, at 1.

17. *Environmental Effects of Increased Coal Use, Hearings Before the Subcomm. on Environmental Pollution of the Comm. on Environment and Public Works*, 96th Cong., 2d Sess. 373 (1980). Coal use is further complicated by the acid rain problem. *See Acid Rain, Hearings Before the Subcomm. on Oversight and Investigations of the Comm. on Interstate and Foreign Commerce*, 96th Cong., 1st Sess. (1980). The Reagan Administration EPA has taken the position that further research on the causes of acid rain and on its effects is needed before any regulatory action can be taken. N.Y. TIMES, Feb. 9, 1982, at 20, col. 1.

18. In brief, the Energy Supply and Environmental Coordination Act of 1974, 15 U.S.C. § 792 (1974) allowed the Federal Energy Administrator to force power plants to convert to coal provided that the standards of the Clean Air Act were met.

coal because of its environmental advantages. The nationwide advantage of western coal, however, was undermined as a result of regulations mandated by the Clean Air Act Amendments of 1977 requiring at least partial scrubbing of all coal.¹⁹

In 1978, the Administration and Congress took a further step to promote coal conversion by limiting use of natural gas as boiler fuel in existing plants and prohibiting the construction of new oil and natural-gas fired power plants.²⁰ In the Economic Recovery Act of 1981, however, Congress lifted the restrictions on the continued use of natural gas in existing plants, thereby decreasing the market for western coal in the Southeast.²¹ The environmental issues with respect to coal conversion have become further complicated by the high case of utility capital and by the possibility that any coal use, no matter how much the coal is cleaned and scrubbed, contributes to acid rain.²² To complicate matters further, coal's competitive position as a source of electricity has been undermined by mandatory and price-induced conservation efforts that have lowered the demand

19. New source performance standards require that emissions from high sulfur coal be reduced by ninety percent and that emissions from low sulfur coal be reduced by seventy percent. 44 Fed. Reg. 33580 (1979). The regulations were recently upheld in *Sierra Club v. Costle*, 657 F.2d 298 (D.C. Cir. 1981). For a critical commentary on the rules that does not attach much weight to the acid rain issue, see B. ACKERMAN & W. HASSLER, *CLEAN AIR/DIRTY COAL OR HOW THE CLEAN AIR ACT BECAME A MULTIBILLION-DOLLAR BAILOUT FOR HIGH-SULFUR COAL PRODUCERS* (1981). The opposite view is taken in Banks, *EPA Bends to Industry Pressure on Coal NSPS—and Breaks*, 9 *ECOLOGY L. Q.* 67 (1980).

20. The Powerplant and Industrial Fuel Use Act of 1978, 42 U.S.C. §§8301 *et. seq.* (Supp. 1978). The Act regulates fuel use in existing powerplants and other major fuel burning facilities, prohibits the construction of new powerplants that burn oil and gas, and limits existing power plants that used oil and gas and another alternative fuel (solar or purchased electricity) in 1977 to the amount of oil and gas burned in that year. The Act prohibited the use of gas in any existing power plant after 1991 and limited the use of gas as boiler fuel in existing power plants to the maximum use during any calendar year in the base period 1974-1976. Like most regulatory statutes, variances are possible. To be granted an exemption, a new powerplant must show that there is no alternative supply of power available within a reasonable distance at a reasonable cost that can be used without impairing either short-term or long-term reliability of service. A powerplant may also show that it is technically, rather than economically, infeasible to use coal or any other alternative fuel and comply with applicable environmental standards. For a detailed analysis of the exemptions, see Herzog, *The Powerplant and Industrial Use Act of 1978*, in R. ZENER, *GUIDE TO FEDERAL ENVIRONMENTAL LAW* 257 (1981). See also Symposium, *The Powerplant and Industrial Fuel Use Act of 1978*, 29 *KAN. L. REV.* 297 (1981).

21. Pub. L. No. 97-35, 45 Stat. 357 (1981) repeals Section 301(a), 42 U.S.C. §8341(a) (Supp. III 1979) which prohibited the use of natural gas in existing powerplants after 1990 and repealed DOE's authority to require existing plants to convert to coal.

22. See, e.g., *Environmental Effects of the Increased Coal Use Hearings Before the Senate Subcomm. on Environmental Pollution of the Comm. on Environmental and Public Works*, 96th Cong. 2d Sess. (1980).

for electricity and thus the cost of public utility capital has been further increased.

In spite of all of these problems, it is still argued that coal-fired power plants have competitive advantages over both oil-fired and nuclear plants:

It would take only a 20 percent increase in the amount of electricity currently made from coal to displace all the oil-fired power plants now in service. That would mean only 40 or so additional coal-fired plants nationwide. And since many, if not most, of the nuclear plants already under construction can be expected to start up eventually, utilities would probably have to add only about 20 new coal-fired plants to do the job.

Moreover, with the advanced pollution-control equipment available, coal-fired plants built today are actually cleaner than most existing oil-fired plants. So air pollution would be reduced, not increased.

The improvement in air quality would not be as great as it would be if nuclear reactors were used, of course. But the additional coal-fired stations would not heighten the dangers posed by transporting nuclear fuel, would not increase the possibility of a meltdown, nor widen the still-little-understood risks associated with radioactive waste and spent nuclear reactors. But virtually all the analyses show an unmistakable trend toward coal. These days, even most nuclear advocates concede that only in areas farthest from any source of coal does nuclear power start to look cheaper.²³

This may be true, but it is important to realize that coal's market is highly dependent on federally mandated coal-use incentives that may either be insufficient to stimulate demand²⁴ or subject to changes that are perverse from the coal industry's point of view.

III. WHY COAL'S REBIRTH HAS HAD SUCH A DIFFICULT LABOR

The purpose of this essay is to examine current federal leasing efforts from two broad, one non-legal and one legal, perspectives: the place coal has occupied in U.S. energy-policy planning since the end of World War II and the consequences of the spill-over of the envi-

23. Parisi, *Hard Times for Nuclear Power*, N.Y. Times, Apr. 12, 1981, § 6 (Magazine), at 38.

24. See Jackson, *The Role for Greater Coal Utilization for the United State's National Energy Policy*, 29 U. KAN. L. REV. 303, 316 (1981).

ronmental movement into public-land law. The basic thesis of the essay is that any effort to accelerate the development of western coal must contend with a degree of "institutional" and "market" friction that is significantly greater than has historically existed with respect to our three primary energy sources: oil, gas and hydropower. Whether this thesis holds for nuclear power is debatable but irrelevant in light of the current depressed state of the industry. This essay neither offers a quick fix to federal leasing nor argues strongly for or against accelerated coal development. Rather, it has the more modest purpose of pointing out that the current controversy surrounding western coal and the cumbersome coal leasing process are the result of the federal government's placing coal at the bottom of energy concerns since World War II. As a result, the production costs of stringent environmental protection laws were ignored until after the laws were in place and had taken on a dynamic of their own. Further, the pursuit of the nuclear dream made it difficult for the industry to respond quickly to federal calls for increased coal use and conversion. If this essay has a normative argument to advance, it is that the history of federal confusion over and neglect of coal policy has been beneficial rather than harmful for the nation. By refusing to subsidize the industry when the market dictated the use of substitute fuels, the resource has been conserved for the time when its use has become more valuable to society. The confusion and environmental actions that fetter coal development, while not wholly rational, have not as yet been overly costly to the nation because the need for coal was not as urgent as the government and the industry have claimed. Thus, an opportunity remains to probe some of the hard, unanswered questions about coal use in the rush of calls advocating its increased use.

These questions include whether the continued priority given to hard, as opposed to soft, energy supply options²⁵ will commit this country to inefficient generation technologies and make it much

25. Hard versus soft energy options are concepts coined by Amory Lovins in his book, *SOFT ENERGY OPTIONS: TOWARD A DURABLE PEACE* (1977). Lovins argues that "hard" options that concentrate on the conversion of existing sources of fuel through more sophisticated technologies are bad for two reasons. First, many proffered technological fixes are inefficient in the long run, and second, "hard" energy options lead to the concentration of political power in technological elites and the destabilization of western, liberal democracies may result. By contrast, "soft" energy options place greater (but by no means total) reliance on the use of renewable resources by more decentralized technologies. For a more neutral assessment of the costs and benefits of the range of energy options, see E. EDEN, M. POSNER, R. BENDING, E. CROUCH & J. STANISLAW, *ENERGY ECONOMICS: GROWTH, RESOURCES AND POLICIES* (1981).

harder and more costly to convert to renewable, more efficient sources.²⁶ Some have gone so far as to argue that our political system will be undermined by hard energy-supply options, especially if it is thought necessary to force nuclear energy on the country.²⁷ Another set of issues centers around the sharp rise in the sectional conflicts exacerbated by the population migration to the South and West. These issues include the use of high severance taxes by states such as Montana to capture for the state a large share of royalty income,²⁸ and Wyoming's use of its power to allocate intrastate waters to force all of the state's coal to be burned elsewhere.²⁹ In short, the western states follow the OPEC model to argue that, since a resource is located within their borders, they have the power to control the use of the resource. Finally, there is the general question of whether the underlying assumption behind increased production policies is correct. Should we continue to assume that energy demand will continue to grow linearly and that high productivity, and the economic benefits that it brings, are inevitably linked to high energy use? Existing energy prices are forcing a healthy decentralized appraisal of these issues, but a more systematic debate over these issues, which is not possible in the current fragmented decision-making process that takes up projects and options one at a time, would be of some value.

Setting aside these general energy issues and accepting the need for increased coal use, it is difficult to formulate a clear coal-use policy because the issues that surround its production and use are much more complex than those surrounding the production and use of the major sources of energy supply: oil and gas. Many of the controversies surrounding coal production center on the issue of whether coal should be developed at all; and, with respect to federal lands, these issues can be raised throughout most of the long and multi-stage leasing "process." By contrast, historically oil and gas development has been presumed beneficial. To some extent the issue of whether, as opposed to how, to develop has been central to the exploitation of hydroelectric power. The great dam-it-or-not controver-

26. See W. ROSENBAUM, *ENERGY, POLITICS AND PUBLIC POLICY* (1981).

27. See, e.g., A. LOVINS, *SOFT ENERGY PATHS: TOWARD A DURABLE PEACE* (1977).

28. The Supreme Court held that Montana's coal severance tax was constitutional in *Commonwealth Edison Co. v. Montana*, 101 S. Ct. 2946 (1981), but there is strong congressional pressure for some form of federal pre-emption of state taxing power. See Goplerud, *Coal Policy—Need it be the West Against the Rest*, 15 J. L. REFORM 77, 98 (1981).

29. See Tarlock, *Western Water Law and Coal Development*, 51 U. COLO. L. REV. 511, 538-43 (1980).

sies, however, starting with Hetch Hetchy, which split the conservation movement into the scientific management and preservation wings, have involved substantial but more limited interests.³⁰ Dams have been opposed primarily because they alter a natural landscape and threaten anadromous fish runs. The costs of coal development directly affect more persons and have more varied and substantial inter-regional impacts. In addition, the big dam era begun in 1902 is drawing to a close; the Wild and Scenic Rivers Act³¹ has withdrawn many potential controversial sites from Federal Energy Regulatory Commission (FERC) licensing or federal construction, and at the present time that action is in low-head (water that falls from relatively low retention structures) hydro.³²

To those familiar with the history of domestic and international oil policy, it may seem the height of naiveté to argue that the issues that surround its development are less complex than those surrounding coal development. But, until recently³³ there has been comparatively little debate over whether oil and gas reserves should be exploited. The intricate law of oil and gas rests on four general principles: (1) property rights should be private and exclusive to the maximum extent possible given the correlative nature of rights in shared resources; (2) title security should be promoted; (3) speculative holdings should be discouraged so that efficient exploitation will be encouraged; and (4) the societal interest in oil and gas use will be satisfied by these policies plus conservation regimes to prevent waste and protect vested correlative rights. The debate about overproduction was a debate about how to achieve the proper rate of exploitation, not whether to exploit. Most of the great political issues were distributional questions.³⁴ The Tidelines controversy was a fight about state and federal distribution of royalties; and the fight over natural gas regulation is whether and to what extent the commodity

30. See S. Fox, *JOHN MUIR AND HIS LEGACY: THE AMERICAN CONSERVATION MOVEMENT* (1981).

31. 16 U.S.C. §§ 1271-87 (1968).

32. See EXECUTIVE OFFICE OF THE PRESIDENT, *ENERGY POLICY AND PLANNING, THE NATIONAL ENERGY PLAN 73* (1977).

33. For a discussion of the problems concerning development of the overthrust belt in Utah, Wyoming and Idaho see Gill, *Intergovernment Restraints on Oil and Gas Development*, 16 LAND AND WATER L. REV. 4576 (1981).

34. An exception is the over production problem of the 1930's that was solved by federal sanction, through the Connolly "hot oil amendment," of a state-run OPEC with Texas as Saudi Arabia and Louisiana as Iran. Williams, *Oil and Gas and the Federal Lands*, 1976 UTAH L. REV. 507.

should be subsidized.³⁵ The windfall profits fight is a classic public versus private distributional question.³⁶

All of these policies of the law of oil and gas, except the necessity to adjust the law of property to correlative rights, apply to coal, but they are only the starting point of formulation of a coal policy. Because of the environmental and societal disruptions attendant upon western coal development, no simple policy based on the need to maximize production can be stated. There are environmental and non-environmental sources of "friction" that must be faced. The two related but separate environmental issues that cause most of the "institutional friction" with respect to coal development are first, the appropriate performance standards to be applied to the restoration of mined areas and the minimization of pollution from mining activities, and second, the land-use issues that center on which coal reserves are and are not appropriate to exploit. The land-use issue is further complicated by the fact that there are few blanket withdrawals of lands suitable for coal mining; rather there is a screening process that must precede a federal coal lease that permits but does not require the Department of the Interior to make ad hoc withdrawals.³⁷ And after a coal-extraction policy is put in place, one must confront the uncertainties, described earlier, over the appropriate federal coal-use policy, and these uncertainties further impede the federal leasing process. These uncertainties are then compounded by the unstable market demand for coal.

In addition to environmental constraints, two other broad classes of institutional constraints, or sources of "friction," impeding rapid deployment of coal in response to changes in market demand are transportation infrastructure problems and labor-management relations. As the World Coal Study reported: "expansion of seam coal production will require substantial infrastructure development, including a major expansion of domestic and international transportation facilities. Moreover, transportation costs are usually an important element in the total delivered cost of coal."³⁸ The special problems in the West involve the fight between the railroads and proposed coal slurry pipelines to carry the coal to areas of high demand.³⁹ This problem is aggravated by the efforts of several western

35. E. HARTLEY, *THE TIDELANDS OIL CONTROVERSEY* (1953).

36. The Crude Oil Windfall Profits Tax Act of 1980, Pub. L. No. 96-223, 94 Stat 229 (1980).

37. See notes 95 to 108 *infra*.

38. C. WILSON, *COAL—BRIDGE TO THE FUTURE* 38 (1980).

39. See Tarlock, *supra* note 26. On November 16, 1981 the Reagan Administration

states to prohibit or severely restrict the use of water for preparation of the slurry mix. In large part the history of coal is the sad and dramatic story of labor-management wars. In the West, however, the level of unionization is less because of the migratory nature of the workforce and the fact that surface mining is technology, not manpower, intensive.

IV. THE HISTORY OF FEDERAL COAL POLICY FROM 1945-1979

Western coal development and United States coal policy, such as it was, followed parallel, low-visibility tracks until the 1970's when the environmental movement and the Arab Oil Embargo intervened. After the early 1970's, coal extraction and use, and western coal in particular, secured an important place on the nation's political agenda, and efforts to rationalize decades of indifference and inaction became intertwined with the policies of environmentalism and energy independence. The result has been a mess. In brief, federal coal leasing was suspended, except for limited exemptions during most of the 1970's after the Department of the Interior became upset that existing lessees were not working their holdings sufficiently, a sound strategy on the part of these lessees. When federal leasing resumed after a decade of environmental and energy policy debates, the federal program emerged as a rational planner's dream. This section examines federal coal policy generally from the Truman to the Carter administrations, and the next section traces the evolution of federal coal leasing policy from 1970 to 1980.

Federal coal policy debates between the end of World War II and the 1973 Arab Oil Embargo focused primarily on the problems of aiding a declining industry.⁴⁰ The political power of the United Mine Workers, and to a lesser extent the industry, made it impossible for the federal government not to intervene in the market. The issue from administration to administration, therefore, became what kinds of subsidies were appropriate. History illustrates that the pre-

announced that it would oppose, on federalism grounds, pending legislation to give pipeline operators a federal right of eminent domain to trump railroad refusals to grant rights of way. *N.Y. Times*, Nov. 17, 1981, at 31, col. 5. Previous legislation has refused to assert federal water rights for the pipelines, and the President has directed the secretaries of Interior and Energy to work with the states to make sure that slurry pipelines are not prevented from competing with railroads because of "unjustified impediments" to their ability to negotiate rights of way.

40. This section is taken almost entirely from a superb new collection of essays on the post-World War II history of United States energy policy recently published by the Brookings Institute. *ENERGY POLICY IN PERSPECTIVE: TODAY'S PROBLEMS, YESTERDAY'S SOLUTIONS* (C. Goodwin ed. 1981) [hereinafter cited as *ENERGY POLICY*].

sent problems of the western coal industry and the federal coal leasing program can be traced to the failure of the federal government to evolve a clear federal coal-use policy and energy policy generally. From the coal industry's point of view, the federal government not only failed to promote increased coal use as a federal energy priority, but policies adopted for other energy sources further eroded the coal industry by keeping alternative energy prices relatively cheap. In fact, the history of federal energy policy from 1945 to 1973 can be read as a series of successful battles waged by the oil and gas industry to keep coal use subordinated to use of oil and gas.⁴¹ With respect to coal, federal energy policies can be reduced to a simple rule: Whatever the government does, coal loses. Again, these conclusions are factual rather than normative, for a very strong argument can be made that the federal government was and is correct, for whatever reason, in failing to subsidize or otherwise promote coal use.

A. *The Truman Administration*

The Truman Administration took office after more than a decade of government intervention in the market. As a consequence, the Department of the Interior and other federal agencies did not lack for well-qualified civil servants who argued for a comprehensive domestic and international energy policy. All of the major issues that are now on the national energy agenda were rehearsed during the Truman Administration, but the lack of an immediate crisis produced mainly a pile of impressive discussion documents. What concrete policy steps were taken did not help the coal industry.

Civil servants generally represent the viewpoint of the industry

41. This historic war between oil and gas and coal no longer exists as the oil and gas industry evolves toward a total energy industry. Between 1967 and 1974, the oil and gas industry's share of total United States coal production grew from 10.8% to 19.1%. The oil and gas industry controlled 14.6% of the demonstrated reserve base in the Western region and 35% of the reserve base of unleased federal reserves were excluded. In 1973, Congress directed the Federal Trade Commission to do a study of the role of private and governmental decisions on energy prices. The FTC's coal study is published as FEDERAL TRADE COMMISSION, BUREAU OF ECONOMICS—BUREAU OF COMPETITION, STAFF REPORT ON THE STRUCTURE OF THE NATION'S COAL INDUSTRY 1964-1974 (1978). Most coal is sold to utilities under long-term contracts. For this reason, the FTC Staff used concentration in uncommitted rather than committed reserves as the most significant indication of market power. With the exclusion of unleased federal coal reserves, eight firms controlled between 68.2% and 70.2% of western coal resources. The study's findings on the ultimate effect of concentration were somewhat ambiguous as the study concludes that economies of scale do not seem to pose significant barriers to entry but "[a] competitive problem could arise if an insignificant number of firms could not muster the funds or the large blocks of coal reserves necessary to enter this capital intensive segment of the coal industry." *Id.* at 161.

with which they are concerned, and thus it is not surprising that the head of the Solid Fuels Administration favored substantial federal intervention in the falling coal market. He argued that coal's day would come again and that the federal government should take active steps to keep the industry alive until demand revived. Specifically, he urged establishing minimum coal prices in the National Industrial Recovery Act and Bituminous Coal Act of 1937 model to offset the competitive advantage that lower priced, cleaner fuels enjoyed.⁴² Another high official countered that the government should not try to induce present demand but should take steps only to allow the industry to operate at minimum survival levels until demand revived. These proposed measures included the withdrawal of marginal mines from production by condemnation, subsidies for production increases, and miner retraining programs.⁴³ Coal industry representatives and those sympathetic to the industry within the Department of the Interior called for a massive federal synthetic fuels program and for a federal coal policy,⁴⁴ a move fought by John L. Lewis who was determined to avoid any federal controls. By the end of the Truman Administration the coal industry had settled on a consistent but forlorn policy:

It is especially noteworthy that by 1951 the coal industry, unlike oil and gas, did not appeal for government assistance to lessen competition nor did it follow the lead of agriculture and seek either price supports or supply restraints. Instead, it called for fair competition in the markets in which it operated; ironically, this was perhaps the hardest bounty of all for government to bestow. Coal producers sustained an almost pathetic faith that if only government and the American people could understand fully both the nation's long-term dependence on coal and the industry's short-term plight, dispassionate analysis would then reveal "what government should do."⁴⁵

The Department of the Interior's synthetic fuels program was killed before commercial production was obtained. Although the costs and benefits of synthetic fuels in 1947, as now, were far from

42. *Id.* at 139.

43. C. Goodwin, *Truman Administration Policies toward Particular Energy Sources*, in *ENERGY POLICY*, *supra* note 40, at 139-40.

44. *Id.* at 146-66.

45. *Id.* at 144.

clear,⁴⁶ the decision not to proceed to commercial production sealed the dominance of oil and gas. The coal industry was also not helped by the Department of the Interior's insistence that hydroelectric power generated by federal projects should be as cheap as possible and by the Truman Administration's general support for the development of commercial nuclear power under federal controls.

B. *The Eisenhower Administration*

Coal policy was almost non-existent in the Eisenhower Administration. "For most practical purposes the Eisenhower administration treated the coal industry as an unemployment problem, not as an energy supply matter."⁴⁷ For example, the President vetoed legislation passed in 1959 creating a coal use research and development commission. Legislation was, however, passed and signed in 1960 to establish an Office of Coal Research within the Department of the Interior with the power to contract for coal research. The industry's biggest victory, if one can call it that, was to participate in a successful effort to institute an oil import quota program to protect domestic markets. By the end of the Eisenhower administration, the coal industry took a lesson from its much more powerful opponent, the oil and gas industry, and began to couch all pleas for coal use preferences in the context of a national fuel policy geared to preventing supply disruptions from those resources more vulnerable to exhaustion and supply disruptions in cases of emergency.⁴⁸ Predictably, the coal industry's plea for minimum consumption targets was attacked by the petroleum industry as incompatible with a clear domestic policy of consumer sovereignty in fuel choice.

C. *The Kennedy and Johnson Administrations*

These two administrations are linked together by the tragedy at Dallas and the fact that very few substantive coal policies, despite much study and interest, were formulated during 1961-68. Increased coal use was part of President Kennedy's concern for helping Appalachia, but this translated only into increased funding for innovative coal-use technologies.⁴⁹ Little need for major federal action was thought necessary because the administration concurred in a Senate

46. *Id.* at 165-67.

47. Barber, *The Eisenhower Energy Policy: Reluctant Intervention*, in *ENERGY POLICY* *supra* note 40, at 266.

48. *Id.* at 268-69.

49. Barber, *Studied Inaction in the Kennedy Years*, in *ENERGY POLICY* *supra* note 40, at 318-69.

fuels study that projected no energy supply shortages for the foreseeable future and no need to decontrol the price of natural gas.⁵⁰ The coal industry devoted a great deal of attention to opposing efforts to decrease crude oil and residual fuel import restrictions. After an intensive internal administration debate, the industry was successful, along with Senator Kerr of Oklahoma, in preventing the import quota program from being terminated. It could not prevent the administration, however, from increasing residual fuel-oil quotas to New England.⁵¹ Although the Kennedy Administration did not provide as much budget support for nuclear power as proponents would have liked, the Atomic Energy Commission's aggressive and articulate chairman, Dr. Glen Seaborg, argued that nuclear power should be made competitive with all fuels. His speeches did much to promote the nuclear dream as the real answer to running out of oil and gas.⁵²

In the Johnson Administration, the theme of the need for centralized energy planning and policy formulation resurfaced and was given strong theoretical support by the President. The Department of the Interior, however, was adjudged to be too close to the various competing interests to be entrusted with policy formulation. After considerable internal debate, the Office of Science and Technology was chosen to be the lead federal agency, and S. David Freeman was appointed to be head of the Energy Policy Staff in late 1967.⁵³ Much of this effort was one of the many casualties of the Vietnam War and the resulting premature end of the Johnson Presidency. Freeman's office in OST, however, survived into the Nixon administration and remained a force for framing energy issues. With respect to coal specifically, the Johnson administration is notable for two things. It marked the high water mark of faith in technology to turn coal into a cheap, clean alternative to petroleum, and the industry was able to influence the administration's decision to bow to eastern political pressure with respect to residual oil import quotas. The coal industry got the Cresap, West Virginia synthetic fuels plant, thanks to Senator Robert Byrd, which, although it never went commercial, survived into the Nixon administration as an experimental facility. Residual oil import quotas were relaxed for New England in 1966, but the coal industry won a token victory in the process. The pro-

50. *Id.* at 320.

51. *Id.* at 312-316.

52. *Id.* at 325.

53. *Id.* at 339-363.

gram was not scrapped, and Secretary Udall was able to hold out to the industry the vague promise that quotas could be reduced if the coal industry suffered damage.⁵⁴ This was a very token victory for coal because, the relaxation of the import quotas encouraged many New England electric utilities to convert *from coal to oil*. The Carter administration was forced to devote much futile effort to reversing this switch.

D. *The Nixon Administration*

Richard M. Nixon took office two years before oil and gas production peaked and thus prices were rising. Nixon was not interested in energy, but many in his administration were. During the first years, there were considerable efforts to reorganize and centralize energy planning. The main energy story is not, however, these efforts but the fact that the Clean Air Act was passed with little analysis of the impact of environmental policies on energy supply, although there was some recognition that the growing demand for clean fuels strengthened our dependency on imported oil. Administration advocates of energy planning were, however, successful in persuading the President to submit an energy message to Congress in 1971. The message called for rapid development of nuclear power, coal gasification, oil shale, and oil production from the Outer Continental Shelf. The cumulative impact of oil and gas and hydroelectric pricing policies that produced relatively low prices was hardly addressed. This message was largely ignored in Washington, and the major step that the Administration took was to control oil prices under the mandatory wage and price freeze program⁵⁵ taken in a hasty response to public distaste for inflation. In fact, until the Arab Oil Embargo, all of the energy action was in the continuing debate over what to do about the oil import quota program.

The complicated entitlement program that was put in place had the effect of subsidizing companies that imported oil and therefore consumption of imported oil, and it was in this atmosphere that coal was reborn after the 1973 Arab-Israeli War. The Nixon administration mounted a massive and hasty effort to formulate an energy policy that was initially based on the assumption that massive amounts of research and development monies and rapid increases in offshore production could free us from dependence on foreign oil. Ultimately,

54. *Id.* at 392.

55. *Id.* at 409-412.

under the influence of William Simon,⁵⁶ the policy became, in part, an argument for market solutions to the energy supply problem. Project Independence, announced as Watergate was engulfing the Nixon Presidency, did finally give the coal industry what they had wanted since the Truman Administration: the recognition that the cornerstone of any federal energy policy must be based on market prices and that in some instances the use of scarce resources, such as petroleum, must be discouraged through taxes.

E. *The Ford Administration*

President Nixon's resignation in 1974 dumped the now politicized energy problem into President Ford's lap. Ford was more committed to energy than was his predecessor, and he developed a program that ultimately became the cornerstone of our present policy: the use of world market clearing prices to force consumers to choose among the most fuel efficient and least costly energy use policies. Specifically, he promised to decontrol oil prices, asked Congress to deregulate natural gas prices, and attempted to promote coal use by amendments to the Clean Air Act.⁵⁷ Congress did not buy the Ford energy program for several reasons. Democrats in Congress were pushing for administrative allocation schemes as a means of dealing with the threat of gas lines and for price subsidies in the name of equity. The political atmosphere was further complicated by the strength of competing interests such as environmentalists pushing for strip-mining regulation,⁵⁸ and western states claiming that they should receive federal assistance for energy development impacts. In the end, the administration had to accept a compromise price control measure on oil that now forms the basis for the calculation of the Windfall Profits Tax.

The main lessons that one can learn from the Ford administration, aside from the painful but powerful truth that price subsidies are not in the national interest no matter how politically attractive they seem, are negative. Continued reliance on expensive and quick technological fixes, a hallmark of political approaches to supply problems, is not an appropriate response to a problem that is at bottom institutional. Because the problem is institutional, the administration's reliance on technological fixes failed to create any planning

56. *Id.* at 454-64.

57. *Id.* at 483.

58. President Ford vetoed strip-mining regulation because of a fear that it would decrease coal supplies from mines developed to meet the increased demand. *Id.* at 539.

framework within which the necessary value trade-offs could be addressed. Such a failure is highly understandable, but it is an essential part of any energy policy strategy.

F. *The Carter Administration*

United States Energy policy from 1976-80 is a history of the partial failure of the President's grandiose National Energy Plan, the successful subsequent phased decontrol of domestic oil and gas prices, and a case study of how to throw money at every research possibility to no well-defined end. Coal benefited greatly, in theory, from President Carter's National Energy Plan, which made increased coal production the cornerstone of oil import reductions, but it lost in practice when price-induced conservation caused a drop in utility demand and coal conversion incentives. The 1977 National Energy Plan placed primary emphasis on increased coal use and hence the production of coal by proposing a tax on industrial oil and gas use. The coal conversion policy that was partially enacted in 1977 by requiring that all coal be scrubbed, by committing the administration to a substantial expansion of synthetic fuels research.⁵⁹ These proposals, in the eyes of most neutral critics of the administration's coal program, favored the use of eastern and midwestern coal, but western coal was ignored. Responding to various western constituencies, the Department of the Interior resolved to straighten out the coal leasing program and end the impasse that had existed since the 1971 moratorium. The Carter administration, however, did not trust the market to allocate the nation's coal resources, especially western coal resources, and from this error stemmed the costly and cumbersome coal leasing program. The administration's coal leasing program, an uneasy amalgamation of progressive theories of scientific management and faith in a planned role for the private market, turned away from the Ford administration's attempt to put in place a market leasing system for western coal. It moved instead to a multi-stage coal leasing program based on government-set production targets and multiple layers of environmental protection efforts.

V. FEDERAL COAL LEASING POLICY

A. *History: 1873-1979*

The history of federal coal policy prior to 1971 is quite simple. Western coal was mainly used to power the railroads, and between

59. Cochrane, *Carter Energy Policy and the Ninety-Fifth Congress in Energy Policy*, in *ENERGY POLICY*, *supra* note 40, at 593-96.

1873 and 1920 coal rights were acquired under special disposition acts allowing the acquisition of fee lands owned by the federal government or of mineral rights reserved by the government.⁶⁰ The passage of the Mineral Leasing Act of 1920⁶¹ settled the longstanding debate as to whether public natural resources would be publicly developed or privately developed under federal supervision by making coal a leasable mineral. Until 1960, the federal government issued about 4.3 coal leases a year, and these were issued on demand to single bidders. Diligent development requirements were not enforced, and the Bureau of Land Management did not begin to study the coal resources entrusted to it until lease bids began to increase in the 1960's. In 1970, the BLM did inventory the status of coal development and found that leased acreage was rapidly increasing but that 91.5 percent of the total leased acreage was unproductive.⁶² An informal Department of the Interior moratorium on coal leasing followed in 1971.

From the 1971 moratorium until 1979, the federal government tried to put in place a federal coal leasing policy that both discouraged speculative holdings and reflected the increased concern over the environmental effects of surface mining.⁶³ Initially, the Department tried to use a comprehensive environmental impact statement (EIS) as the basis for an Energy Minerals Activity Recommendation System (EMARS) that tried simultaneously to increase production, increase federal royalties and contain the adverse environmental impacts of coal development. This effort was stalled by major environmental challenges within and without the government. The first BLM effort (EMARS I) attempted to sketch a federal program of allocation of regional demand, tract selection and leasing procedures, but it failed after the environmental impact statement on which it was based was severely criticized within the Department and by the Environmental Protection Agency. Outside the Department, litigants

60. Coal Lands Act, ch. 279, § 17 Stat. 607 (1873)(repealed).

61. 30 U.S.C. §§ 181 *et seq.* (1976).

62. See Watson, *The Federal Coal Follies—A New Program Ends (Begins) A Decade of Anxiety*, 58 DEN. L.J. 65 (1980) for a well-researched account of this recent history.

63. In trying to make sense out of the coal leasing program, I have benefitted greatly from a manuscript written by Dr. Robert Nelson, *The Socialist Experiment in America: The Management of Federally Owned Coal* (April, 1981)(unpublished manuscript). The manuscript as authored by an economist who, as a member of the Office of Policy Analysis of the Department of the Interior, was actively involved in shaping the coal program during the Ford and Carter administrations. This superb manuscript both sounds many of the deeper themes touched upon in this essay and provides a wealth of first-hand knowledge about why certain decisions were made.

in two major law suits attempted to use the EIS process to deflect national coal development to the Midwest and East. In the first, *Kleppe v. Sierra Club*,⁶⁴ the plaintiffs unsuccessfully tried to mandate the preparation of a programmatic EIS for the Northern Great Plains region; the second, *National Resources Defense Council v. Hughes*,⁶⁵ shut down most federal leasing.

In 1973, the Department decided that the EMARS system had to be reworked. By this time the Department had hired some economists in the newly created Office of Policy Analysis, and these economists and others tried to move EMARS away from a program for setting government allocation targets to one in which federal lessees would respond to market demands through bidding. The Department decided, however, that it must still respond to the reason for the moratorium and decided to include provisions to discourage holdings.⁶⁶ In the end, therefore, EMARS II ended up as a planned market system. The EMARS II regulations were written on the unrevised EMARS I EIS, and the merits of EMARS II became irrelevant when *Hughes* held that the final, unrevised EIS was inadequate.⁶⁷

From the early 1970's the big issue in Congress with respect to coal was whether and how to regulate strip mining; but in the midst of this debate, Congress paused to pass the Federal Coal Leasing Amendments Act of 1976⁶⁸ which attempts to apply the oil and gas model to coal leasing. The amendments reflected considerable departmental and congressional concern over the lack of leasehold development. In oil and gas law, lack of development has been presumed bad because it may injure the royalty owner's interest in unextracted hydrocarbons. With respect to coal, however, lack of development is of less concern because it primarily reflects the absence of any market demand rather than non-diligent lessee activity. Further, resource recovery maximization is generally the only rational strategy for a private landowner to follow, but federal coal is mined on land pursuant to mineral rights retained by the federal government. Resource recovery maximization is only one of several re-

64. 427 U.S. 390 (1976).

65. 437 F. Supp. 981 (D.D.C. 1977). The order was subsequently amended to allow six categories of leases for purposes such as hardship and prevention of loss of mining opportunities and to allow existing mines to maintain a level of production sufficient to meet existing contracts. 454 F. Supp. 148 (D.D.C. 1978).

66. See Watson, *supra* note 62.

67. *Id.*

68. 30 U.S.C. §§ 201-09 (1976).

source use options to the federal government. The limited contribution that federal coal royalties made to the national budget suggests that the Department of the Interior overreacted to the lack of development. But, because the need for more federal leases was an article of faith with many during this period, the Act was enacted over President Ford's veto. The amendments, which generally follow the Department's EMARS II regulation, attempt to increase federal revenues, increase total resource recovery, and minimize speculative holdings by making it more difficult to get and hold a coal lease. These are all valid objectives, but the post-1976 program illustrates that promotion of diligent development is no longer accepted as *the* resource use policy where coal is concerned; and, in fact, efforts to stimulate rapid resource development may not be in the best interests of the country. For example, if actual market demand for the resource is replaced by government estimations of market demand, the result may be that too much of the resource is developed too soon. Although no coal is physically wasted, future coal may become more costly to recover if the best tracts are mined first and the extraction industry is subject to unwarranted price and profit margin fluctuations.

The amendments, with limited exceptions, require that all coal leases be issued through competitive bidding.⁶⁹ Holders of exploration rights no longer may obtain preferential lease rights.⁷⁰ Applicants are limited to 46,000 acres under federal lease in any one state and no more than 100,000 acres in the United States. Pre-1976 holdings need not be divested, but no new leases can be acquired until the applicant's aggregate holdings drop below 100,000 acres.⁷¹ Non-diligent prior leases are penalized because, with limited exceptions, an entity which has not produced coal in commercial quantities cannot qualify for a new lease.⁷² Federal leases are for an initial term of twenty years and "so long thereafter as coal is produced annually in

69. 30 U.S.C. §201(a)(1) (1976).

70. The power of the Department of the Interior to deal with pre-1976 preference right applications is limited. *Natural Resources Defense Council v. Berklund*, 609 F.2d 553 (D.D.C. 1979), holds that a pre-1976 coal lease application cannot be rejected so long as the existence of commercial quantities of coal is established. See Fairfax & Andrews, *Debate Within and Debate Without: NEPA and the Redefinition of the "Prudent Man" Rule*, 19 NAT. RESOURCES J. 505 (1979), which contains a well-researched account of internal DOI debates on what to do about inefficient and environmentally unsound preference right leases, and G. COGGINS & C. WILKINSON, *FEDERAL PUBLIC LAND AND RESOURCES LAW* 416-427 (1981).

71. 30 U.S.C. §184 (1976).

72. 30 U.S.C. §201(a) (1976).

commercial quantities”⁷³ at a twelve and one-half percent royalty. A lease cannot be held for the full primary term by delay rentals, however, as can an oil and gas lease; any lease not producing in paying quantities after ten years may be terminated. An oil and gas lessee may keep a lease alive in the secondary term so long as production in paying quantities is obtained, and may choose the payment of shut-in royalties as an alternative to production should the market dictate. A coal lessee may not have this option as the lessee is subject to the higher and undefined standard of “diligent development” except where strikes or other conditions beyond the lessee’s control intervene.⁷⁴

Although environmental concerns were not absent in EMARS I and II, there was no comprehensive treatment of the side-effects of surface mining. In 1977, Congress finally cured this deficiency with the passage of the Surface Mining Control and Reclamation Act (SMCRA).⁷⁵ Once the side-effects of an industry’s activities are deemed unacceptable, the classic model of government intervention posits three methods of intervention.⁷⁶ First, government can own and operate the industry. In communist countries the operating norms are provided by central planning; in non-communist and mixed free-enterprise socialist countries, state-run industries may be subject to the discipline of the market. Second, the government may treat the industry as a public utility and regulate its prices and outputs. Third, the government can intervene for the more limited purpose of correcting a market failure that shields the industry from the full discipline of the market.

Although comparatively little attention was paid to adverse environmental side-effects from all sorts of activities until the last two decades, most environmental regulation fits within the third model. In general, this model (which usually takes the form of performance or equipment standards) is preferred in market economies because it is the least intrusive and, in theory, the most cost-effective.⁷⁷ SMCRA is a classic example of the third model, but federal regulation of western coal extraction is interesting because the Carter Administration, which is responsible for the final form of the 1979-80 leasing

73. 30 U.S.C. §207(a) (1976).

74. See Humphreys, *Existing Federal Leaseholds—How Strong is the Hold?*, 25 ROCKY MTN. MIN. LAW INST. 5-1 (1979).

75. 30 U.S.C. §§1201-1328 (1976).

76. See N. JACOBY, *MULTINATIONAL OIL* (1974).

77. See Krier, *The Pollution Problem and Legal Institutions: A Conceptual Overview*, 18 U.C.L.A. L. REV. 429 (1971).

program, rejected sole reliance on SMCRA to represent the federal interest in the social costs of coal extraction. Instead, within the constraint of the Mineral Leasing Act of 1920, the Carter Administration sought to marry the first two models of government intervention and overlay SMCRA with them.

B. The Theoretical Underpinning of the Carter Administration Coal Leasing Program.

This marriage resulted in a program that relies heavily on central planning to make key decisions: how much coal will be mined, where the coal will be mined and where the coal will be used. The program was designed, along with its component parts such as the scrubber policy, to force the West to burn the coal near the mines. Industry was formally reduced from the primary role projected in the short-lived Ford Administration EMARS II program to a secondary or perhaps even tertiary role. The industry became an agent of the government, a public utility without a guaranteed rate of return if you will, because the crucial decisions, such as how much coal should be mined and where, were to be made by a central planning process.⁷⁸ The newly formed Department of Energy (DOE) was to establish overall production and leasing targets; the Department of the Interior was to pick the places where coal mining should not take place and the places where DOE's leasing targets could be most efficiently met. Industry's role in deciding how much western coal the market demanded came late in the process.

The federal coal leasing program is ill adapted either to serve the nation's need for increased coal or to further legitimate environmental protection objectives. The program is based on bankrupt conceptual underpinnings, unattainable data requirements, and the lack of a clear objective as to benefits, environmental and otherwise, that will be gained by substituting planning for more modest regulation of the market. An analysis of the theoretical underpinnings of the program, which follows, illustrates that federal agencies, which are asked to do too much and do not have the authority to implement their ambitious decisions, will inevitably produce more costs than benefits. With respect to coal, the over-ambitious specific coal extraction objectives given to the Department of the Interior were further complicated by the general and open-ended environmental land-

78. To purge the program from the taint of EMARS II Secretary Andrus replaced industry tract nominations with "indications of interest" which were on a par with all other general public comments. R. Nelson, *supra* note 63, at ch. xI.

use planning objectives to which it is subject.

Under the Carter administration program, the federal coal leasing program can be seen as a last gasp effort to implement a progressive dream that has been pursued with modest success throughout this century. As the administration's last report to Congress succinctly states: "Under the authority in the Federal Land Policy and Management Act (FLPMA) and the Federal Coal Leasing Amendments Act (FCLAA), comprehensive land-use planning for all Federal lands serves as the foundation of the Federal Coal Program."⁷⁹ This statement is the culmination of the four phases through which federal public lands policy has evolved. Aside from a few withdrawals such as Yellowstone National Park, until the creation of the Forest Reserves in 1891, federal policy was to dispose of the public domain to those who made valid entries under the various Homestead Acts. From the 1890's until the passage of the Taylor Grazing Act of 1934,⁸⁰ federal policy was one of simultaneous disposition and retention. This stormy period gave way to custodial retention which was practiced in varying degrees until the 1950's and 1960's. The management agencies themselves became restive with this passive role and began to implement planning processes to influence the specific management decisions that they were forced to make. The Forest Service led the way with a simple theory of joint production that formed the basis of the much beloved but difficult to apply concept of multiple-use.⁸¹ Finally, the environmental movement was influential in persuading Congress to legitimate what the agencies were doing and to carry informal agency practices a step further by mandating enhanced management and planning duties. The National Forest Management Practices Act⁸² and the Federal Land Policy and Management Act⁸³ are the two most ambitious efforts to legislate the progressive era dream of management and planning in the public interest. Unfortunately, Congress chose to try an idea long after many thoughtful students of comprehensive planning had concluded that the idea was unworkable and that one must turn to more focused and incentive-based theories to achieve desirable public lands policies.⁸⁴

79. SECRETARY OF THE INTERIOR, ANNUAL FEDERAL COAL MANAGEMENT REPORT: FISCAL YEAR 1980 2 (1981).

80. 43 U.S.C. §§315 *et. seq.* (1976).

81. See S. DANA & S. FAIRFAX, FOREST AND RANGE POLICY (1980).

82. 16 U.S.C. §§ 1601-13 (1976).

83. 43 U.S.C. §§1701-82 (1976).

84. See Simon, *Rationality as a Process and as a Product of Thought*, 68 AM. ECON.

The Carter administration coal leasing program requires that DOE and Interior attempt to decide how much federal coal should be mined and where the most efficient mining areas and the areas that are environmentally unsuitable for coal mining are located. In addition, the process tries to ensure that everyone with a legitimate interest in western coal mining is happy with the outcome. As a result, every aspect of the program rests on principles that attempt to resolve conflict among divergent and ultimately incompatible interests through the transcendent medium of planning.

Federal coal leasing targets are driven by national coal production goals established by the Department of Energy. From overall production goals, regional leasing targets are derived by the Department of the Interior. In September of 1980, DOE published high, medium and low production goals for five year intervals starting in 1985. DOE projections are quite controversial among the states, especially Montana, because they deprive the states of some of the control over federal leasing activity that the states thought that they gained in the Federal Coal Leasing Act Amendments of 1976.⁸⁵

Both DOE's and Interior's coal demand and leasing forecasts have been subjected to intense criticism by the industry and environmentalists. The criticisms of DOE's models and final EIS released in 1978 range from technical, methodological quibbles to the fundamental question: why make projections at all?⁸⁶ A former Department of the Interior official, now a coal company executive, has accurately described the process and industry's concerns about it:

What in fact occurs is not an economic forecast, but a political process in which regional coal teams made up of state and federal officials make collective judgments about the number of leases to be offered in a given region. In theory, this coal team approach should serve the program well. In practice, the coal team leaders have been federal officials brought in from other areas, presumably because they are more impartial, but actually, they are often uninformed and unfamiliar with either the leasing program or the tracts in question

REV. 1 (1978) and A. WILDAVSKY, *SPEAKING TRUTH TO POWER: THE ART AND CRAFT OF POLICY ANALYSIS* (1979).

85. See R. Nelson, *supra* note 63 at ch. IX for an account of the role of the western states in securing passage of the amendments and the benefits in terms of increased influence that they expected to gain.

86. R. Nelson, *supra* note 63, at ch. XIII details the forecasting controversies.

Only three relatively small lease sales (Green River-Hams Fork, central Utah, and northern Alabama) have been held since its adoption. Moreover, the target-setting, or market-guessing aspects of the program are apparently being revised by the current Administration.

However, what concerns me is the burden such a complicated program places on the Bureau and the unfortunate likelihood that a procedural or analytical error might occur which could place an entire lease sale in jeopardy. That might not seem critical to some, but it must be remembered that until early this year, we had gone more than ten years without a major competitive federal coal lease sale, and the bonus bids obtained in these first sales reflect a sizable pent-up demand.⁸⁷

Given that federal coal development lies in the hands of private lessees who must respond to shifting national and international market pressures, one can legitimately ask why the government should try and forecast need at all instead of just offering, subject to conditions, the tract that the lessee wants.

After DOE regional leasing targets have been set, the Bureau of Land Management of the Department of the Interior selects tracts that will be offered for leasing. Potential leasable lands must be subject to four screens before they can be put on the auction block. First, sites are screened to determine which ones have a high or moderate development potential. The second screen asks questions as to which of the sites that survive the first screen are unsuitable for surface mining. The first two screens are conducted through the use of comprehensive planning. If a site survives the first two general screens, it must be subjected to more specific evaluation to determine the optimum use of the site according to multiple use criteria. It is at this stage that such non-economic interests as wildlife are considered. Because many federal coal rights are severed mineral rights, the fourth screen asks the surface owners to express a preference for or against mining: "Where a significant number of qualified surface owners express a preference against surface mining, the Secretary

87. Farrand, *Mission Impossible 9* (Paper prepared for the Workshop on Political and Legal Aspects of Range Management, National Academy of Sciences, Natural Resources Commission Committee for the Development of Strategies for Rangelands Management, Jackson Hole, Wyoming, September 15, 1981). This paper along with other valuable papers presented at the symposium will be published by the Academy in 1982.

will not lease the federal coal"⁸⁸

Once the four screens are completed, the fun starts. The next phase of the process is activity planning "to delineate and select a sufficient number of tracts for competitive lease sales in order to meet regional leasing targets."⁸⁹ There are thirty separate steps in activity planning prior to the final step, lease sales. Included in the steps are: (1) the formation of a regional coal team, (2) calls for expressions of leasing interest, (3) site-specific analyses of each tract followed by a comment period, (4) EIS scoping (*sic*) meetings, (5) team and Departmental review of tract selection, (6) preparation of the EIS, and (7) consultation with the states and DOE. It took over two years to delineate sixteen tracts in the Green River-Hams Fork region of Wyoming and Colorado.⁹⁰ A case can be made that the government can evaluate the environmental costs of specific lease sites more cheaply than can individual coal companies. There is also a case for the proposition that federal site evaluations should precede expressing of leasing interest to set the social ground rules for the operation of the market. The Carter administration leasing program went far beyond this modest objective and attempted to supplant the operation of the market. The site screening process put in place simply asks too much of the human mind. As Nelson reports, as of January, 1981 "[t]he Interior Department has still not resolved how to set the amount of Federal coal to offer in each lease sale."⁹¹

It will be difficult to carry out the seeming objectives of the federal leasing program, the selection of the optimum tracts that please all interested parties, because the Department of the Interior is asked to apply three inconsistent federal land-use planning requirements. First, FLPMA mandates comprehensive, multiple-use planning for all lands managed by the Bureau of Land Management. Second and third, the Surface Mine Control and Reclamation Act (SMCRA)⁹² imposes both performance standards and single-purpose, rather than multiple-purpose, planning requirements on the Department of the Interior. SMCRA further requires the restoration of strip-mined land to its pre-mine state and the maintenance of hydrologic balances. These performance standards are extremely con-

88. FED. COAL MANAGEMENT REPORT, *supra* note 79, at 3.

89. *Id.*

90. *Id.* at 8.

91. R. Nelson, *supra* note 63, at ch. XVIII.

92. 30 U.S.C. §§ 1201-1328 (Supp. I 1977). See generally Swift, *Implementation of the Surface Mining Control and Reclamation Act of 1977 From a Coal Operator's Perspective*, 25 ROCKY MTN. MIN. L. INST. 4-1 (1979).

troversial. Some environmental scientists question whether many fragile western lands can be reclaimed⁹³ and coal companies argue that they are required to spend more than the fair market value of the land to reclaim it. Evidence to date, however, suggests that, although the benefit-cost ratio on post-mine reclamation is not favorable, the actual cost burden on the industry does not deter investment in Western coal.⁹⁴ Be this as it may, a discussion of SMCRA as a whole is not necessary to understand an aspect of the Act that is now the subject of intense controversy. SMCRA contains a number of provisions that, in effect, require land to be withdrawn from strip mining for environmental or agricultural reasons. Alluvial valleys and prime farm land receive special consideration.⁹⁵ On top of these withdrawals, Section 522 prohibits surface mining on lands designated as unsuitable for this purpose by the Secretary of the Interior.⁹⁶

Unsuitability designation is a complex process under SMCRA. There are five classes of per se or potentially unsuitable lands:⁹⁷ (1) national parks, wildlife, wilderness, and scenic rivers and trails lands are permanently withdrawn from mining; (2) mining is also prohibited in a catch-all category consisting of all parks, places on the National Register, rights of way and cemeteries; (3) National Forest lands are open to mining unless the Secretary of the Interior finds that there are significant timber, recreational, economic or other values that might be impaired by strip mining, and the Secretary of Agriculture finds that the forest lands do not have significant forest cover; (4) all federal land not subject to vested rights based on prior mining may be designated as unsuitable under Section 522; and (5) Section 522 creates a separate designation process for non-federal lands. In theory, the last two processes are to be integrated through planning and coordination.

Those responsible for the design of the federal coal leasing program did not think that Section 522 would play a major role in the

93. NATIONAL ACADEMY OF SCIENCES, REHABILITATION POTENTIAL OF WESTERN COAL LANDS (1974).

94. A recent study Resources for the Future, R. RIDKER & W. WATSON, TO CHOOSE A FUTURE: RESOURCES AND ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVE GROWTH PATHS 340 (1980), concludes that reclamation costs will run between 1.2 and 1.9 percent of the value of coal extracted under all development scenarios projected to 2025 and thus "on a national scale, the cost of keeping land disturbance at tolerable levels is moderate."

95. 30 U.S.C. § 1260(b)(5)(d)(Supp. III 1979).

96. 30 U.S.C. § 1272 (Supp. III 1979).

97. *Id.*

leasing process,⁹⁸ but it may. Environmental groups see the federal and state Section 522 processes as a perfect handle to force comprehensive planning on unwilling state and local agencies as well as on the Department of the Interior.⁹⁹ Any party with standing, as defined by the Supreme Court, may petition the Office of Surface Mining to designate non-federal lands as unsuitable and a hearing results. Litigation is currently underway to determine whether a Section 522 hearing is legislative or adjudicatory. A petition process for federal lands is not clearly available as the statute simply delegates the exclusive authority to make unsuitability designations for federal lands to the Secretary of the Interior after consultation with the affected state,¹⁰⁰ but a petition process has been recognized.¹⁰¹ Lands that fall within the mandatory withdrawal category must be withdrawn, but the standards that guide the Secretary's discretion with respect to non-mandatory areas are not clear.¹⁰²

A sensible and limited use of the unsuitability concept would be to buffer national parks and other federal areas of high scenic value. Such a provision was urged by Secretary Andrus, but Congress opted for the broader, open-ended Section 522 process which, in effect, requires all federal coal lands to be zoned. To implement Section 522, the Department of the Interior has adopted twenty uniform, national unsuitability criteria which must be applied to all federal lands being considered for leasing.¹⁰³ Many of them are primarily designed to buffer parks and other scenic areas; others are designed to protect endangered species and exceptional wildlife habitats. There are several vague watershed and flood plain protection requirements, however, that could introduce a broad range of land use planning criteria once an area becomes the subject of an unsuitability proceeding.¹⁰⁴ These planning requirements are likely to com-

98. R. Nelson, *supra* note 63, at ch. XI. The assumption was "so long as the standards for unacceptable coal areas were not too broad, it could be assumed that there would be adequate supplies left available for inexpensive and otherwise desirable coal."

99. *Id.* at XIV.

100. 30 U.S.C. § 1272(c)(Supp. III 1979).

101. 11 ENV'T REP. (BNA) 1278-79 (1980).

102. See Note, *Designating Areas Unsuitable for Surface Coal Mining*, 1978 UTAH L. REV. 321, 336-338.

103. FED. COAL MANAGEMENT REPORT, *supra* note 79.

104. Unsuitability requirements were challenged in the litigation challenging the constitutionality of SCMCRA, but the Supreme Court has held that Section 522 does not violate the tenth amendment prohibitions against infringement of state sovereignty. *Hodel v. Virginia Mining & Reclamation Assn.*, 101 S. Ct. 2352 (1981). There has been one administrative unsuitability decision, which is currently being challenged in the courts. *Sierra Club v. Watt*, No. 81-0172 (D. Utah filed Mar. 13, 1981); *Utah v. Watt*, No. 81-0093 (D. Utah filed Feb.

pel the inefficient use of scarce Department of the Interior resources because the unsuitability criteria are triggered regardless of the existence of substantial valuable coal deposits or leasing interest in the area.

In 1980, the Sierra Club petitioned the Secretary of the Interior to designate as unsuitable for mining 325,000 acres, including 240,000 acres of federal lands in southern Utah to protect Bryce Canyon National Park.¹⁰⁵ The Secretary designated only ten percent of the recoverable coal deposits as unsuitable, but 9,000 out of 26,000 acres visible from Bryce Canyon National Park were designated.¹⁰⁶ Environmentalists claim that the best coal can now not be mined and that the Allen-Warner Valley Power System Project is in financial jeopardy.¹⁰⁷ Other Section 522 petitions are in the hearing stage.¹⁰⁸

CONCLUSION

A recent article addresses the question of what role, if any, national energy policy considerations should play in the law of implied covenants in oil and gas leases.¹⁰⁹ Professor Stephen F. Williams rightly concludes that our current energy policies are too open-ended and conflicting to warrant reliance on them by the courts in justifying or changing existing private doctrines. His criticism of national energy policy is doubly true for coal. As the Office of Technology Assessment has observed: "[T]here are many points in the entire pattern of coal production and use where the different goals—increased production, environmental protection, and maximum social benefit—conflict."¹¹⁰ The great strength of the existing

13, 1981); *Utah Int'l v. Department of Interior*, No. 81-0090 (D. Utah filed Feb. 12, 1981). See generally Buskirk & Dragoo, *The Designation of Coal Lands as "Unsuitable" for Surface Coal Mining Operations*, 27 ROCKY MT. MIN. L. INST. 339 (1982).

105. 11 ENV'T REP. (BNA) 1278-79 (1980).

106. *Id.*

107. *Id.*

108. In late 1981, the Department of the Interior denied a petition to designate land along the Tongue River in Montana as unsuitable. 46 Fed. Reg. 61,929 (1981).

109. Williams, *Implied Covenants in Oil and Gas Leases: Some General Principles*, 29 KAN. L. REV. 154, 172-74 (1981). The contrary argument is made in Martin, *A Modern Look at Implied Covenants to Explore, Develop, and Market Under Mineral Leases*, 27 INST. OF OIL & GAS L. & TAX 177 (1976). Cf. Weaver, *Implied Covenants in Oil and Gas Law Under Federal Energy Price Regulation*, 34 VAND. L. REV. 1473 (1981) which suggests various defenses possibly open to lessees in breach of implied covenants in litigation based on federal oil and gas price regulation.

110. OFFICE OF TECHNOLOGY ASSESSMENT, *THE DIRECT USE OF COAL: PROSPECTS AND PROBLEMS OF PRODUCTION AND COMBUSTION* 337 (1979).

law of oil and gas is that it takes an affirmative act from courts or legislatures to involve the law of private rights in the quagmire of national energy policy. By contrast, anyone who wishes to understand the law of federal coal leasing must start from the premise that national energy and environmental considerations are the major consideration in the acquisition of private coal rights to federally owned coal. It is not the function of this article to pass final judgment on the federal coal leasing program. Its designers support it on the theory that it broke a decade of inactivity. A few in the industry support it on the theory that any further changes, no matter what they are, will only result in new leasing delays. My argument is that the present coal leasing program is a classic case study of the costs of trying to coordinate private rights in natural resources with broader and ill-defined national policies. At the present time, the federal government is not yet serious about increased coal use, and the present federal coal leasing program is a planner's dream which is likely to produce uncertain benefits. Until the federal government puts an effective coal use and conversion policy in place, the coal industry should be allowed to determine the rate of western coal production, and the federal and state governments should concentrate on minimizing the environmental side-effects of surface mining.