ENERGY POLICY: A TEST FOR FEDERALISM

Jon Mills* & R. D. Woodson**

The central problem of federalism results from the lack of a clear demarcation of authority between the states and the federal government. The extent of state power has been a point of contention from the writing of the federalist papers to the cry of states' rights during the school desegregation controversy.[1] In recent years the dispute has focused on clashes between state and federal energy policy. State and federal perspectives regarding energy may differ markedly. To the federal government the energy issue involves balance of payments, foreign relations, and national security. To state and local governments, on the other hand, the focus is pragmatic and localized, the welfare of the state and its citizens being the primary concern. Thus, for instance, concern for safety may make a locality leery of nuclear power, while the federal government sees it as the only alternative to drastic increases in oil imports.

Three possible allocations of governmental responsibility are possible. In certain areas of exclusive federal responsibility, the preemption doctrine precludes any role for the states.[2] Traditional examples of preemptive activity are found in the federal government's

* Executive Director of the Center of Governmental Responsibility, University of Florida. B.A. 1969, Stetson University; J.D. 1972, University of Florida. Member of the Florida bar.

** Assistant Director of the Center of Governmental Responsibility, University of Florida. B.S. 1972, Auburn University; J.D. 1975, University of Florida. Member of the Florida bar.

1. *See* Swann v. Mecklenburg Bd. of Educ., 402 U.S. 1, 16-18 (1971). History has shown a tendency for federal power to increase, with judicial approval usually forthcoming. *See* Katzenbach v. McClung, 379 U.S. 294 (1964) (expansion of federal power under the commerce clause). Certain recent federal efforts, however, have been aimed at relinquishing to state and local governments areas of authority formerly assumed by the federal government. Perhaps the best example is the revenue sharing program. State and Local Fiscal Assistance Act of 1972, 31 U.S.C. §§ 1221-1228 (Supp. V, 1975).

2. Preemption results from the relationship between specific constitutional powers of the federal government and the supremacy clause, U.S. CONST. art. I, § 8, giving federal laws preeminence over conflicting state laws. *See generally* Engdahl, *Preemptive Capability of Federal Power*, 45 U. COLO. L. REV. 51 (1973).

leasing of oil-bearing lands on the Outer Continental Shelf [OCS] beyond the 3-mile limit[3] and the Federal Power Commission's [FPC] control over pricing of natural gas intended for the interstate market.[4] In other areas, where the federal government has failed to act expressly or impliedly[5] or where the Constitution has been interpreted as failing to delegate authority to the federal government, the state may act under the police power[6] to protect its citizenry from potential adverse impacts of energy development and utilization. These principles are consistent with traditional notions of federalism, whereby the state and federal governments are viewed as pitted against one another for authority or jurisdiction, with the judiciary as the final arbiter.[7]

The third possibility reflects a more modern view of federalism which embraces the concept of state-federal cooperation. Cooperative efforts, in addition to avoiding divisive power struggles, can utilize the strengths of each level of government: a federal mandate may give added force to an enactment and counteract certain local pressures on state governments, while state involvement will increase sensitivity to local problems and conditions and contribute to effective ultimate implementation. Perhaps the most significant advantage is the ability of the combined federal-state authorities to draw on all the power allocated to government in the American constitutional system. The increasingly complex nature of energy problems and solutions seems to favor the cooperative approach of this new federalism, under which a solution tailored to the diverse energy needs of America's varying geographical and sociological conditions is more readily achievable.[8]

Under neither the traditional nor the new federalism can the numerous facets of the energy problem be resolved in a single effort. Energy policy development affects numerous topics critical to the states, ranging from land use to air and water pollution to public transportation. It thus is not a unified issue, but a conglomerate of otherwise

3. *See* United States v. Maine, 420 U.S. 515 (1975).

4. 15 U.S.C. § 717-717w (1970).

5. *See* Maryland v. Wirtz, 392 U.S. 183 (1968); Huron Portland Cement Co. v. City of Detroit, 362 U.S. 440 (1960); U.S. CONST. amend. X.

6. This is the power inherent in any level of sovereign government to pass rules and regulations for the common good, safety, health, morals, and to promote order for the general welfare of society. Lochner v. New York, 198 U.S. 45 (1905); Ad-Express, Inc. v. Kirin, 516 F.2d 195 (2d Cir. 1975).

7. *See generally* United States v. Maine, 420 U.S. 515 (1975); Mintz v. Baldwin, 289 U.S. 346 (1933).

8. A striking example of the successes and failures of this posture was demonstrated in the governmental response to environmental pollution from energy use. Recognizing that a successful effort required participation by all states, that local pressure had precluded state action in the past, and that adequate monitoring and implementation required both federal funds and state knowledge of local conditions, the federal government enacted nationwide air and water controls which entrusted a primary executive role to the states. *See* 33 U.S.C. § 1151 (1970); 42 U.S.C. § 1857 (1970). *See also* Energy Policy and Conservation Act of 1975, 42 U.S.C. §§ 6201-6222 (Supp. V, 1975).

tangentially related matters linked only because all involve energy. The consequence of this diversity is that policy formulation appears as either a shotgun effort to treat all aspects without adequate depth in any, or as an overly narrow policy that fails to treat comprehensively the ramifications of the whole energy question. Because energy is elemental to an industrialized society, the implications of energy policy change as suddenly as the society and its technology. Therefore, no evaluation of energy policy or energy conservation can hope to solve completely the energy problem. Similarly, the variable nature of energy problems and policies precludes a final demarcation of the boundaries of state and federal authority in this area. However, certain limits and desirable patterns can be defined to guide legislators at the state and federal levels in determining appropriate areas for exercise of their authority.

This Article will examine the bases of state and federal power, exploring areas of both potential and existing conflict within the energy field. Situations in which either the state or federal government appears to have exclusive authority also will be scrutinized. Possible answers to problems caused by the clashing of governmental interests will be suggested, with an eye toward aiding policymakers to reach agreements which may avert such conflicts. Finally, a prognosis of the future of federalism in regard to the energy issue will be offered.

SOURCES OF GOVERNMENTAL POWER

It is fundamental constitutional doctrine that the United States government is one solely of delegated powers.[9] Those powers not expressly granted to the federal government in the Constitution are reserved to the states.[10] It is from this basis that an examination of the respective powers of each level of government must proceed.

Powers Delegated to the Federal Government

Any analysis of state and federal authority to make energy policy should begin with the supremacy clause[11] since it is the Constitution's most direct statement on the state-federal power relationship. This clause gives preemptive power to federal enactments supported by con-

9. *E.g.*, Oregon v. Mitchell, 400 U.S. 112, 128 (1970); Kansas v. Colorado, 206 U.S. 46, 81 (1907); McCulloch v. Maryland, 17 U.S. (4 Wheat.) 316, 405 (1819).

10. U.S. CONST. amend. X. State powers are limited in some cases by constitutional provisions, such as that forbidding states to coin money. *Id.* art. I, § 10. Other limitations are contained in state constitutions. For example, the Arizona Constitution prohibits the legislature from enacting local or special laws in a list of specific situations. ARIZ. CONST. art. 4, pt. 2, § 19.

11. U.S. CONST. art. VI, cl. 2.

stitutionally enumerated federal powers, thus enabling them to override conflicting state laws.[12] Preemption can become operative through an express congressional statement to that effect, or it can be implied from the circumstances. For instance, implied preemption may be found where a state regulation produces results inconsistent with the purpose and goals of a federal statute;[13] where federal regulation is so pervasive as to preclude state authority,[14] or where the particular subject regulated demands uniformity among all states.[15]

Caution must be exercised in concluding that a matter is one giving rise to implied preemption. Even though a matter may be one amenable to nationwide regulation, Congress may allow the states a role in an area where federal preemption might be otherwise assumed. An example is provided by the case of *Askew v. American Waterways Operators, Inc.*,[16] ruling on the constitutionality of Florida's Oil-Spill Prevention and Pollution Control Act.[17] The contested state legislation, which imposed strict liability for damage resulting from an oil spill in Florida's territorial waters, was alleged to be preempted by the Water Quality Improvement Act of 1970[18] and overriding principles of federal maritime law. Despite the pervasiveness of federal controls under the Water Quality Improvement Act and the federal government's historical domination of maritime law, however, the Supreme Court upheld the state legislation, pointing to specific congressional expressions of an intent to maintain a role for the state in regulating oil pollution.[19] The Court declared that "sea-to-shore pollution" was

12. Engdahl, *supra* note 2, at 56-57.

13. *See* Perez v. Campbell, 402 U.S. 637 (1971); Brotherhood of Railroad Trainmen v. Jacksonville Terminal Co., 394 U.S. 369 (1969).

14. *See* City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624 (1973); Cloverleaf Butter Co. v. Patterson, 315 U.S. 148, 169 (1942). *See also* New York State Dep't of Social Servs. v. Dublins, 413 U.S. 405, 412-17 (1973).

15. *See, e.g.*, Teamsters Local 174 v. Lucas Flour Co., 369 U.S. 95, 103-04 (1962); San Diego Bldg. Trades Council v. Garmon, 359 U.S. 236, 241-44 (1959); Southern Pac. Co. v. Arizona, 325 U.S. 761 (1945).

One author suggests that the following factors recur most often in judicial appraisals of preemption: first, the purpose or intent of Congress as disclosed by the federal statute and its legislative history must be determined. Additionally the pervasiveness of the federal regulatory scheme and the design of any implementing administrative procedures as well as the nature and degree of state interest in regulation of the subject matter should be examined. Further, whether, under the circumstances of a particular case, state law stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress should be examined. Finally, consideration should be given to the nature of the subject matter regulated, and whether it is one which requires exclusive federal regulation in order to achieve uniformity vital to national interests. Rubin, *Rethinking State Antitrust Enforcement*, 26 U. FLA. L. REV. 653, 680 (1974).

16. 411 U.S. 325 (1973).

17. FLA. STAT. §§ 376.011-.021 (Supp. 1976).

18. 33 U.S.C. § 1161 (1970).

19. 411 U.S. at 329. The Water Quality Improvement Act stated that it should not be construed to affect any state or local law not in conflict with the Act's provisions or to preempt state or local imposition of liability or requirements in regard to oil spills. 33 U.S.C. § 1161(a) (1970). Additionally, cooperative action with the states was mandated in national contingency plans to be prepared by the President. *Id.* § 1161(c)(2).

"historically within reach of the police power of the states,"[20] and that the federal and state enactments were "harmonious parts of an integrated whole."[21] This decision clearly demonstrates that, despite the possibility of preemption, federal statutes may set standards relating to energy and at the same time allow or encourage state standards which may be more stringent.

Most disputes over application of the supremacy clause involve neither a manifest congressional approval, such as that present in the *Askew* case, nor a clear expression of preemption. The Supreme Court itself has recognized that each case is decided on its own pecularities and that "prior cases on preemption are not precise guidelines" to be followed.[22] Because the issue is subject to such wide-ranging judicial discretion, a court's evaluation of the subject matter as national or local can be conclusive. The existing cases establish that, as a general rule, preemption of a traditional state power is not favored;[23] therefore, when preemption or lack thereof is not clear on the face of the statute, the nature of the power exercised by the state apparently will influence the determination.[24] From these general trends, however, no long term guidelines can be formulated. Conceivably, a local matter of today will be a matter requiring nationwide uniformity in the future, or vice versa. Preemption doctrine thus can be clarified little further than a delineation of the three somewhat broad questions that must enter into any preemption determination. First, is the basic claim of federal authority constitutionally exercised? Additionally, did Congress express an intent as to whether preemption should operate? Finally, if congressional intent is not manifest, does the subject matter require preemption or is it a local matter? In energy matters, the answer to the first of these questions generally depends on interpretation of the constitutional delegations to the federal government of the power to tax and spend and the power over interstate commerce. Occasionally, the war power also may have relevance.

The Spending and Taxing Powers. The federal spending power, which originates in article I of the Constitution,[25] authorizes Congress

20. 411 U.S. at 343.
21. *Id.* at 331.
22. City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624, 638 (1973).
23. *See* Rice v. Santa Fe Elevator Corp., 331 U.S. 218 (1974); Parker v. Brown, 317 U.S. 307 (1943).
24. This consideration seems to have been influential, for instance, in cases denying preemption of state input into the siting of atomic reactors. *See* Northern Cal. Ass'n to Preserve Bodega Head & Harbor, Inc. v. Public Util. Comm'n, 61 Cal. 2d 126, 390 P.2d 200, 37 Cal. Rptr. 432 (1964); *In re* Florida Power & Light Co., St. Lucie Nuclear Plant No. 2: Application for Site Certification, Case No. 75-006, Order No. 82 (Before the Governor and Cabinet of the State of Florida, 1976).
25. U.S. CONST. art. I, §§ 8-9.

to appropriate and spend in promotion of any objectives deemed worthwhile in furtherance of the general welfare and subject to the limitations of the Bill of Rights.[26] The spending power is often used as a public policy tool, to provide incentives for citizens and local governments to take actions not ordinarily within federal control. With this type of federal action, therefore, development of state energy policies can be subjected to a broadened federal influence.

"Buying compliance," as in the Emergency Highway Energy Conservation Act,[27] is the most significant such exercise of the spending power. Conditions imposed on grants, contracts, and other expenditures by the federal government ensure state cooperation with stipulations which Congress could not otherwise constitutionally impose. Courts recognize no legal restrictions on such conditions so long as there is no abridgement of due process.[28] The states, of course, are free to ignore federal policy thus imposed simply by rejecting conditional grants; once money has been accepted on conditions, however, the conditions must be satisfied.[29]

Congress' authority to lay and collect taxes also is subject to few limitations. Although the basic purpose of this power is production of revenue, other objectives such as the conservation of energy may be accomplished through tax incentives. Taxes have been used to affect energy policy, for example, with the oil depletion allowance.[30] Tax incentives relating to energy conservation, such as increased gasoline taxes, have been continually proposed.

The Commerce Power. As initially interpreted, the distribution of federal and state powers effectuated by the commerce clause[31] embodied the concept of dual sovereignty, in which the states and the nation exercised exclusive authority in their respective spheres.[32] Thus a dichotomy existed between interstate and intrastate commerce which was also the dividing line for governmental authority. With the growth of industry and commerce to national dimensions and the advent of

26. Steward Machine Co. v. Davis, 301 U.S. 548 (1937).

27. Pub. L. No. 93-239, § 3, 87 Stat. 1046, *as amended*, Pub. L. No. 93-643, § 154, 88 Stat. 2281 (codified in scattered sections of 23 U.S.C.). The Emergency Highway Energy Conservation Act denied federal highway funds to any state which did not employ a 55 mile-per-hour speed limit. 23 U.S.C. § 141 (Supp. V, 1975).

28. *See* Helvering v. Davis, 301 U.S. 619 (1937); Simkins v. Moses H. Cone Memorial Hosp., 323 F.2d 959 (4th Cir. 1963).

29. The states have the power to prevent private persons within their jurisdictions from complying with the conditions of a federal grant. United States v. Burnison, 339 U.S. 87 (1956). However, if the spending power is used to achieve an objective within the sphere of enumerated federal powers, state regulation will be preempted. *See* Alabama NAACP State Conference of Branches v. Wallace, 269 F. Supp. 346 (M.D. Ala. 1967).

30. 26 U.S.C. § 611 (1970).

31. U.S. CONST. art. I, § 8.

32. Gibbons v. Ogden, 22 U.S. (9 Wheat) 1 (1824).

social and economic focus transcending local concern, the artificial interstate-intrastate dichotomy animating the concept proved to be untenable.[33] The resultant break with traditional doctrine was achieved through the Supreme Court's expansive redefinition of the federal interstate commerce power to include matters formerly considered intrastate in nature.[34] Such power, however, is not limitless. In determining the validity of a congressional exercise of commerce clause power to regulate purely intrastate activity, the determinative question is whether Congress has a rational basis for finding that the regulated activity affects interstate commerce.[35] If it does, the means selected by Congress to eliminate the evil must be reasonable and appropriate.[36] Congressional power may not be extended so as to encompass effects upon interstate commerce so indirect and remote as to obliterate the distinction between what is national and what is local.[37] The Supreme Court, in establishing these principles, has recognized the need to reserve some matters of commerce regulation to the state and to place some restrictions on congressional power.

Nevertheless, the expansion of federal interstate commerce authority has resulted in increasing judicial scrutiny of state regulation of commerce. The Supreme Court has recognized that despite Congress' power over interstate commerce, the states are not precluded from exercising their police powers in matters of local concern, even if such an exercise affects interstate commerce.[38] However, substantial limitations remain on state regulation of interstate commerce. A major restraint, and one relevant in establishing energy policy, is the prohibition against a state's attempting to isolate itself from problems shared nationally.[39] Additionally, any attempt at state regulation must be reasonable and necessary in light of local interests and concerns.[40] In *Cities Service Gas Co. v. Peerless Oil & Gas Co.*,[41] for example, the Supreme Court held that state regulation must protect a manifest local

33. For a summary of modern commerce power views, see Perez v. United States, 402 U.S. 146 (1971).

34. *See* Wickard v. Filburn, 317 U.S. 111 (1942) (upholding federal regulation of a small quantity of wheat grown exclusively for home consumption; although never marketed interstate, the wheat was said to supply needs of the grower which would otherwise be satisfied by purchases from the interstate market).

35. Heart of Atlanta Motel, Inc. v. United States, 379 U.S. 241 (1964).

36. *Id.* at 262.

37. NLRB v. Jones & Laughlin Steel Corp., 301 U.S. 1 (1937).

38. Edwards v. California, 314 U.S. 160 (1941) (dictum); California v. Thompson, 313 U.S. 109 (1941). These cases conclude that there are matters which—because of their numbers, diversity, and local character—may never be dealt with adequately by Congress.

39. Edwards v. California, 314 U.S. 160, 173 (1941). In the context of energy policy, this means that no oil-producing state may enact measures to restrict the export of oil to consuming states. *See* Pennsylvania v. West Virginia, 262 U.S. 553 (1923).

40. Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1 (1824).

41. 340 U.S. 179 (1950).

interest and must outweigh any national interest in equivalent regulation. Upheld in that case was the power of a state to set natural gas prices at the wellhead as a means of preventing uneconomic dissipation. The state and federal interests in conservation coincided, and the state means adopted were held reasonably related to this legitimate end. This case illustrates that where regulation of local matters also operates as a regulation of interstate commerce, reconciliation of conflicting claims of state and national power may be attained only by appraisal and accommodation of the competing demands of the state and national interests involved.[42] Where the balancing of interests indicates a considerable state interest in the regulation, impingement upon the underlying federal commerce power may be allowed.

War Powers. Under the war powers clause of the Constitution,[43] the federal government has exclusive control over matters affecting national security. Where federal authority is based on war powers, preemptive effect is uniformly recognized. In relation to energy, three areas of war power authority have been recognized: control of oil policy, generation of electric power, and atomic energy.

Recognition of the relationship between oil policy and national security began in 1904 when President Taft withdrew several million acres of public lands as naval oil reserves to ensure the Navy's ability

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42. *See also* Southern Pac. Co. v. Arizona, 325 U.S. 761 (1945). Several cases affecting energy policy have involved this balancing of competing interests in determining whether state action affecting interstate commerce is valid. In Huron Portland Cement Co. v. City of Detroit, 362 U.S. 440 (1960), the Supreme Court dealt not only with the preemption issue but also found that the smoke abatement ordinance, as it applied to interstate shippers, did not discriminate against interstate commerce. The Court based its holding on congressional recognition that primary responsibility for preventing air pollution was with the states. *Id.* at 446.

In Portland Pipe Line Corp. v. Environmental Improvement Comm'n, 307 A.2d 1 (Me.), *appeal dismissed*, 414 U.S. 1035 (1973), the Maine supreme court upheld a state licensing procedure and state regulations for oil carriers conducting transfers within that state's coastal waters. ME. REV. STAT. ANN. tit. 38, §§ 541-557 (Supp. 1973). After determining that the license fee imposed on those engaged in the over-water transfer of oil was fair, reasonable, and did not discriminate against interstate commerce, 307 A.2d at 38-39, *citing* Evansville-Vanderburgh Airport Auth. Dist. v. Delta Airlines, Inc., 405 U.S. 707 (1973), the court considered the constitutionality of the state regulations. The opinion began by noting that the commerce clause did not absolutely preclude the states from exercising power, leaving the states free to regulate unless their laws conflicted with federal law. 307 A.2d at 39, *citing* Wilson v. Black Bird Creek Marsh Co., 27 U.S. (2 Pet.) 245 (1829). The latter distinction turned upon whether the subject which the state sought to regulate was of national or local concern. 307 A.2d at 39, *citing* Southern Pac. Co. v. Arizona, 325 U.S. 761 (1945). Finding that the state's need to control and prevent oil spillage was a subject of vital local concern, the court reasoned that the primary responsibility for controlling such pollution lay with the state. *See* 307 A.2d at 40. Since the state law did not openly conflict with any federal law, nor deliberately discriminate against interstate commerce, it was held to be a valid exercise of state power.

43. U.S. CONST. art. I, § 8. This authority is broadened by the necessary and proper clause and by the recognition that authority over foreign policy is inherent in national sovereignty.

to fulfill its fuel requirements.[44] Furthermore, as early as 1954 the need to supplement domestic supply with imported oil was thought to present a threat to national security.[45] In partial response to this perceived threat the Trade Agreements Extension Act of 1955 was passed, requiring the Director of the Office of Defense Mobilization to advise the President whenever there was reason to believe that any article was being imported in such quantities as to threaten national security.[46] Pursuant to this Act, the Mandatory Oil Import Program was established in 1959,[47] giving the President authority to regulate quota levels and allocations to domestic claimants. This function has been handled by various agencies in the executive branch, and currently is controlled by the Federal Energy Administration [FEA].[48]

The FEA has been given great leeway by the courts in the control of imports and allocation. In *Gulf Oil Corp. v. Simon*[49] an oil company challenged FEA regulations as violative of the National Environmental Policy Act [NEPA], arguing that no environmental impact statement was prepared prior to promulgation of regulations. The court held that because of Congress' intention for swift emergency action due to the national energy crisis, the FEA's actions took precedence over NEPA.[50] Thus federal activity in the area of fuel allocation has preempted any allocation conflicting with the federal scheme. A designation of necessity to national security pursuant to the war power in any phase of oil policy seemingly would similarly preempt state activity.

The second area in which the war power has played an important role is the generation of electric power. In *Ashwander v. Tennessee Valley Authority*[51] the Supreme Court upheld the construction of a dam and electrical generating facilities pursuant to the war power as necessary to national security, even though the construction took place during peacetime. The case demonstrates both the breadth of the war power and the importance of the generation of electricity to national security. From it can be inferred the possibility of war power preemption of state control over electrical generation.

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44. *See* United States v. Midwest Oil Co., 236 U.S. 459 (1915) (upholding the withdrawal).

45. *History of the Federal Energy Organization, Hearings on S. Res. 45 Before the Senate Comm. on Interior and Insular Affairs*, 93d Cong., 1st Sess. 36 (1973).

46. 19 U.S.C. § 1862(b) (1970), *as amended*, 19 U.S.C. 1862(b) (Supp. V, 1975).

47. *Id.* § 1862.

48. 15 U.S.C. § 761 (Supp. V, 1975); Exec. Order No. 11,790, §§ 4-5, 3A C.F.R. § 157 (Supp. 1974).

49. 502 F.2d 1154 (Temp. Emer. Ct. App. 1974).

50. *Id.* at 1157. For further analysis of the Federal Administration [FEA] authority, see Reeves v. Simon, 507 F.2d 455 (Temp. Emer. Ct. App. 1974), *cert. denied*, 420 U.S. 991 (1975); California v. Simon, 504 F.2d 430 (Temp. Emer. Ct. App. 1974); Mandel v. Simon, 493 F.2d 1239 (Temp. Emer. Ct. App. 1974).

51. 297 U.S. 288 (1936).

The war power is most controversial in relation to nuclear power. The Atomic Energy Act of 1946 established the Atomic Energy Commission [AEC] to control policy aspects of atomic energy development.[52] The emphasis in relation to power development was shifted to private companies by the AEC retaining power as licensing agency.[53] Under current law[54] nuclear power is controlled at the federal level by the Nuclear Regulatory Commission. Although for a long period states refrained from acting in the area, the role of the states is currently in a state of uncertainty,[55] due to an increasing tendency by state governments to insert themselves in this field, at least as to siting procedures. However, the bases for federal authority in relation to nuclear power—the war power and supremacy clauses—are formidable obstacles for the states to surmount.[56]

Powers Reserved to the States

State energy legislation must be based on some inherent or constitutional power of the state, generally the inherent authority termed the police power. The police power, which is implicitly recognized in the tenth amendment to the Constitution,[57] entails the broad authority possessed by a sovereignty to legislate in furtherance of the health, safety, morals, and general welfare of its citizenry.[58] Few judicial limits have been placed on this power, and a legislative declaration that a law promotes the public welfare generally is sufficient to ensure its recognition as a legitimate exercise of the police power. Thus, in recognition of its broad scope, the police power has been characterized as the power "to promote the public welfare by restraining and regulating the use of liberty and property limited only by constitutional and reasonable judicial requirements."[59] Because of the changing social, economic, and political conditions, it is a flexible power, constantly evolving to fulfill its purpose of promoting the public health, safety, morals, and general welfare.

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52. Act of Aug. 1, 1946, ch. 724, 60 Stat. 755 (codified at 42 U.S.C. §§ 2011-2296 (1970)).
53. Act of Dec. 19, 1970, Pub. L. No. 91-560 § 3, 84 Stat. 1472, *amending* 42 U.S.C. § 2121 (1970).
54. 42 U.S.C § 2011 (1970).
55. *See* Northern Cal. Ass'n to Preserve Bodega Head & Harbor Inc. v. Public Util. Comm'n, 61 Cal. 2d 126, 390 P.2d 200, 37 Cal. Rptr. 432 (1964).
56. Murphy & La Pierre, *Nuclear "Moratorium" Legislation in the States and the Supremacy Clause: A Case of Express Preemption*, 76 COLUM. L. REV. 392, 434 (1976).
57. This amendment reserves to the states those powers not prohibited to them nor delegated to the federal government. U.S. CONST. amend. X.
58. Perry Trading Co. v. Ervin, 46 So. 2d 458 (Fla. 1950). See text & note 6 *supra*.
59. M. FORKOSCH, CONSTITUTIONAL LAW 266 (1st ed. 1963).

One of the strongest justifications for the state regulation in the energy area is public safety. For example, the storage[60] and distribution[61] of gasoline may be regulated to protect the state's citizens from danger of personal injury. Similarly, the inherent dangers of operating motor vehicles justify state regulation under the police power despite an unavoidable impact upon interstate commerce.[62] Similarly, the enactment of 55 mile-per-hour speed limits in all states for energy conservation could be justified under the safety aspect of the police power, since the result has been a decrease in highway deaths. Most energy-related regulations, however, are justified as promotive of the general welfare. This is the case, for instance, with laws aimed at conservation of energy resources, an area which is likely to be a major thrust of state energy policy action. These illustrations should demonstrate the breadth of the police power as a justification for state energy legislation and regulations. Were it not for the preemptive effect of federal pronouncements, doubtless the state police power would provide ample authority for virtually any type of energy-related regulation. Thus the primary questions revolve around the scope of federal rather than state power; where federal power does not preclude state activity, state power generally exists.

AREAS OF PRESENT INTERGOVERNMENTAL CONFLICT

Although some areas of energy control fall clearly within the ambit of either state or federal authority,[63] the uncertainties in other areas have given rise to various intergovernmental clashes. Energy development almost inevitably seems to entail threats to the natural and human environment; thus potential for conflict inheres in the growing public and governmental concern regarding both energy supply and environmental protection. The most heated conflicts to date have occurred in relation to nuclear power facilities and development of offshore oil resources. An examination of these controversies is illustrative of the sort of intergovernmental problems likely to arise as the move for energy independence continues, and may provide some guidance to officials seeking to minimize future clashes.

60. City of Miami v. Direct Distributors, Inc., 134 Fla. 430, 183 So. 841 (1938).
61. Mayo v. Texas Co., 137 Fla. 218, 188 So. 206 (1939).
62. Miami Transit Co. v. McLin, 101 Fla. 1233, 133 So. 99 (1931).
63. For example, the area of state procurement, that is, the purchase by the state of goods for its own use, seems clearly within the area of state authority. This is supported by the fact that under the new Energy Policy and Conservation Act the federal government has specifically exempted state procurement from preemption by federal regulations. Energy Policy and Conservation Act of 1975, Pub. L. No. 94-163, 89 Stat. 871 (codified in scattered sections of 15 & 42 U.S.C.).

Nuclear Power

The nuclear power controversy currently sparks the most heated debate. Several states, concerned with the potentially devastating effects of malfunction or sabotage,[64] are considering measures to ban or control the development of nuclear power within their borders.[65] At the same time the federal government, in particular the executive branch, has been promoting the case of nuclear power.[66] As yet the constitutional delineations of power have not been finally resolved, although the federal preemptive claim seems to be prevailing in regard to most tested aspects of the nuclear power problem.

It is reasonable to assume that both the state police power and the congressional power to regulate interstate commerce afford sufficient basis for the regulation of the design, construction, and operation of nuclear power reactors.[67] Thus, the demarcation is dependent upon the extent of express or implied preemption currently operative. The revelant federal enactment against which preemption must be gauged is the Atomic Energy Act,[68] the critical provision of which states, "[n]othing in this section shall be construed to affect the authority of any State or local agency to regulate activities for purposes other than protection against radiation hazards."[69] This provision has been interpreted as expressing a congressional intent to endow the federal government with exclusive authority to regulate the construction and operation of nuclear plants, including the discharge of nuclear waste.[70]

64. *See* Murphy & La Pierre, *supra* note 56. *See generally* Note, *Malevolent Acts and Nuclear Power: Additional Protection Under NEPA and the Energy Reorganization Act of 1974*, 16 ARIZ. L. REV. 920 (1974).

65. *See* Murphy & La Pierre, *supra* note 56, at 392.

66. Fifteen percent of the nation's energy consumption is projected to be derived from nuclear power by 1985 and as many as 1400 nuclear power plants could be operating by the year 2000, according to some estimates. *Oversight Hearings on Nuclear Energy—Overview of the Major Issues Before the Subcomm. on Energy and the Environment of the House Comm. on Interior and Insular Affairs*, 94th Cong., 1st Sess., ser. 94-16, pt. 1, at 77 (1976).

67. Murphy & La Pierre, *supra* note 56.

68. 42 U.S.C. §§ 2011-2296 (1970). The 1954 Atomic Energy Act, enacted during a time when atomic energy was a sensitive area of national security and considered a matter for national control, leaves little room for state regulation. However, amendments passed in 1959 specifically to govern state authority to regulate nuclear power, *id.* § 2021, *amending* The Atomic Energy Act of 1954, Pub. L. No. 86-373, 73 Stat. 688, contained indications that cooperation would be encouraged. For instance, provision was made for state-federal agreements which could confer on states the authority to regulate nuclear plants. *Id.* § 2021(b).

69. *Id.* § 2021(k).

70. Northern States Power Co. v. Minnesota, 447 F.2d 1143 (8th Cir. 1971), *aff'd*, 405 U.S 1035 (1972). Subsection k actually limits the overall application of section 2021, and the section therefore has no effect on "the authority of any state or local agency" except with regard to protection against radiation hazards. Subsection c of section 2021 enumerated federal radiation hazard concerns relating to construction and operation, export or import, and disposal in ocean or sea. Consequently, the statute could be interpreted to preempt state actions within these four areas, but the wording of section 2021(k) indicates that nothing else should be affected, including siting procedures.

According to the eighth circuit court, such federal preemption is necessary in order to ensure that industrial energy development is not stifled by overly stringent requirements.[71] Under this reading, the state would be precluded from imposing requirements stricter than those of the federal government. Even under this view, however, a state role might be possible in such matters as the siting of nuclear plants.[72]

A separate question is presented by a total state exclusion of future nuclear plants or even perhaps a conditional exclusion: should exclusion have the same legal effect as regulation? General principles developed in relation to the commerce clause indicate that exclusion would not be permissible if it resulted in an undue interference with interstate commerce[73] or if it imposed an unduly detrimental effect on other states.[74] Commentators have stated, however, "[t]here is no room for any argument that state bills imposing a prohibition or moratorium on the construction of nuclear power plants are not within the intended scope of preemption because Congress did not directly contemplate this type of state 'regulation' in enacting [section 2021]."[75]

Future litigation of the nuclear issue is certain. It is also possible that future federal legislation may attempt to clarify the area. Despite claims to the contrary, it appears that states may have a role in regulating some aspects of nuclear power plants. The extent to which this regulation will be allowed remains to be determined.

Offshore Oil and Gas Development

Jurisdiction over offshore oil reserves has been subject to continued dispute for over 20 years. Nonetheless, the United States has turned increasingly to development of this resource in an effort to reduce dependence on foreign oil. In *United States v. California* the Supreme Court held that the federal government had full dominion

71. *See* Northern States Power Co. v. Minnesota, 447 F.2d 1143 (8th Cir. 1971), *aff'd*, 405 U.S. 1035 (1972). This argument is based on the premise that the issue of nuclear power is one which by nature requires absolute federal control. Thus the *Northern States Power* opinion was based on both express and implied preemption. *See also* Estep & Adelman, *State Control of Radiation Hazards: An Intergovernmental Relations Problem*, 60 MICH. L. REV. 43, 44 (1962); Helman, *Pre-emption: Approaching Federal-State Conflict Over Licensing Nuclear Power Plants*, 51 MARQ. L. REV. 43, 67 (1967); Neel, *Federal or State Jurisdiction Over Atomic Products and Waste—A Dilemma*, 50 KY. L.J. 52, 57 (1961).

72. *See* Northern Cal. Ass'n to Preserve Bodega Head & Harbor, Inc. v. Public Util. Comm'n, 61 Cal. 2d 126, 390 P.2d 432, 37 Cal. Rptr. 432 (1964); *In re* Florida Power & Light Co., St. Lucie Nuclear Plant No. 2: Application for Site Certification, Case No. 75-006, Order No. 82 (Before the Governor and Cabinet of the State of Florida, 1976); discussion note 70 *supra*.

73. *See* Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970); Huron Portland Cement Co. v. Detroit, 362 U.S. 440, 443 (1960).

74. *See* Edwards v. California, 314 U.S. 160 (1941).

75. Murphy & La Pierre, *supra* note 56, at 447.

over the 3-mile territorial sea and the land thereunder as an incident of national sovereignty.[76] This decision was partially nullified by the enactment of the Submerged Lands Act whereby the federal government relinquished to the coastal states submerged lands lying seaward from their respective boundaries for a distance of 3 geographical miles.[77]

Under the Submerged Lands Act the United States retains control of the land and water of this belt for purposes of commerce, navigation, national defense, and international affairs.[78] The Act indicates that the rights retained by the federal government are paramount to the proprietary rights granted to the states but do not exclude exercise of those rights. The states have power to administer, lease, and develop the submerged lands and the natural resources of the marginal belt subject to the priority of the federal interest in those areas named.[79] These reservations by the federal government are in recognition that the territorial sea is a major channel of interstate commerce with important defense implications, but they do not reduce the states' title to such lands beyond that inherent in the supremacy clause of the Constitution.[80] Thus the Submerged Lands Act granted to the coastal states dominion over the offshore seabed within the territorial sea. The Act expressly declared that its provisions in no way affected federal control over the OCS beyond the marginal shelf.[81] By the Outer Continental Shelf Lands Act of 1953 Congress had declared it to be the policy of the United States that the subsoil and seabed of the OCS are subject to its jurisdiction, control, and power of disposition.[82]

The Outer Continental Shelf Lands Act expressly authorizes the Secretary of Interior to prescribe rules and regulations which he deems necessary for the leasing of OCS lands.[83] This authority has been used

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76. 332 U.S. 19 (1947).
77. 43 U.S.C. § 1301 (1970). The act was held constitutional in Alabama v. Texas, 347 U.S. 272 (1954).
78. 43 U.S.C. § 1314 (1970).
79. *Id.*
80. The Submerged Lands Act was in essence a congressional expression of a desire to allow coastal states control over the submerged lands off their coast within the territorial sea. Such control is subject to the overriding federal concerns of commerce and defense.
81. 43 U.S.C. § 1302 (1970).
82. *Id.* § 1332(a). *See also* United States v. Maine, 420 U.S. 515 (1975). In this decision the federal government brought suit against the 13 Atlantic Coast states to establish the completeness of federal authority over Outer Continental Shelf [OCS] lands. Rights of dominion over submerged lands beyond the marginal seabelt were claimed by the coastal states. The states based their claims to the lands as grantees or successors of grantees of land grants from either the English or Danish crowns. Rejecting these arguments the Supreme Court held that sovereign rights over the seabed and the subsoil underlying the Atlantic Ocean from an area beyond the 3-mile marginal sea to the outer edge of the Continental Shelf inhere in the federal government as an incident of national sovereignty.
83. 43 U.S.C. § 1334(a)(1) (1970). Under the Outer Continental Shelf Lands

to formulate regulations designed to insure that development and operation of oil and gas wells are done in a safe and efficient manner.[84] All oil and gas leases issued under the authority of the Outer Continental Shelf Lands Act are subject to forfeiture for any breach of the rules and regulations formulated by the Secretary.[85] Not only does the Secretary have the right to lease OCS lands for oil and gas development, but he also has authority to grant rights of way through these lands for the transport of oil or gas.[86] Such authority gives the federal government the ability to control the location of pipeline corridors up the states' territorial sea. The successful completion of corridors to the shore depends on the coastal state. Thus, the rules indicate that a coastal state may not arbitrarily exclude or unreasonably restrict energy production and transmission facilities.[87] The standards effectively condition grants under the Coastal Zone Management Act on the states' meeting their obligations for energy-related siting within their coastal zones.[88]

The federal government therefore has a tremendous impact on energy-related development through its direct control over the disposition of federal lands. In turn, this federal power can have a strong impact on state land use decisions. Presently the federal government is attempting to coordinate the disposition of federally controlled OCS lands with the affected coastal states' management programs.

Act, the Secretary of Interior is the leasing agent of the federal government charged with the authority to lease OCS lands for oil and gas development. *Id.* §§ 1301-1315. Leases are generally granted to the highest qualified bidder under a competitive bid system. To date bidding has been by sealed bids and made upon the basis of the highest cash bonus coupled with a fixed royalty of 12½ percent. *Id.* §§ 1335(a)-(b). The lease is usually for a term of 5 years but subject to automatic extension as long as oil or gas is produced from the leasehold in paying quantities. *Id.* § 1337(a).

84. 30 C.F.R. § 250.30 (1976).

85. 43 U.S.C. § 1334(c) (1970).

86. *Id.*

87. *Id.*

88. The Coastal Zone Management Act is being seen as the principal tool to deal with the OCS development that is likely to affect the coastal states. *See* 16 U.S.C. §§ 1451-1464 (Supp. V, 1975). To date all the coastal states are participating under the Coastal Zone Management Act. The Act insures that the state will have the statutory mechanism to control onshore development. However, the one weakness which still exists is the lack of funds for the coastal states to cope effectively with such impact. Absent some federal aid in this area, it is recognized that many states might not look favorably on OCS activities off their coast. To remedy this problem the Senate has recently passed two bills to provide federal monies to aid coastal states affected by OCS activities. *See id.* § 1455 (Supp. V, 1975). *See also* Governmental Research Council, *Aid Sought for States Near OCS Development*, 7 NAT. J. REP., June 28, 1975, at 962.

Both of these measures would provide the coastal states which are affected by OCS oil and gas development funds to meet onshore impacts. The bills establish funds supported by rents, royalties, and fees levied on OCS production to be utilized by the affected states to ameliorate adverse environmental effects and to control the social and economic impacts associated with the development of federal energy resources. In principle these measures are designed to insure that the actual cost of energy development is borne by the whole nation.

POTENTIAL GOVERNMENT ROLES IN DEVELOPING ALTERNATIVE ENERGY SOURCES

Following the 1973-74 oil embargo imposed by the Organization of Petroleum Exporting Countries, attention has focused on developing alternatives to petroleum as a source of energy. In general the potential for intergovernmental conflict appears lesser in regard to solar energy, geothermal energy, wind energy, and energy generated by solid wastes than is true of the traditional fossil fuels or of nuclear energy. This is because development of such energy forms is not known to entail the dangers of nuclear power or the environmental costs of fossil fuel extraction. Correspondingly, the prospects for federal-state cooperation are greater. There are nonetheless legal questions concerning the appropriate role of each level of government in the development of each of the primary alternative energy sources, though the issues differ markedly from those raised by the previously discussed conflicts.

Solar Energy

An enormous supply of energy is received by the earth from the sun. Solar energy is estimated to have the potential for supplying 25 percent of the United States' energy needs by the year 2020.[89] The greatest potential for early utilization of solar power lies in heating, cooling, and supplying hot water for buildings—uses which currently constitute 25 percent of United States' energy consumption.[90] Development activities aimed at converting solar energy into electrical energy also hold promise, though the implementation stage for such systems lies some years in the future.[91]

Although the development and utilization of solar energy could do much to offset present and future energy shortages, initial capital costs

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89. ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION, DIVISION OF SOLAR ENERGY, NATIONAL SOLAR ENERGY RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAM 1 (1975). The major technological problem in utilization of solar energy is the low density of the energy upon its arrival at the earth's surface. Present technology is sufficient to allow for the collection and utilization of solar energy for many purposes; however, the low density requires collection devices of substantial cost.

90. A. PATTON, SOLAR ENERGY FOR HEATING AND COOLING OF BUILDINGS 1 (1975). Solar heating and cooling systems use collectors, usually consisting of a flat plate that absorbs heat from the sun's rays, covered on one side with transparent covers to prevent reradiation and convection. The energy is transferred to a fluid, usually water, which is then pumped to a storage tank for use as required. *Id.* at 1-35.

91. Solar thermal conversion, as this technique is known, involves collecting solar energy, converting it to thermal energy, and then converting the thermal energy to electrical energy. It is estimated that a 10,000 square mile solar farm utilizing these collectors could supply the United States with its entire electrical power needs in the year 2000. *See generally Oversight Hearing on the Solar Heating and Cooling Demonstration Act of 1974, Before the Subcomm. on Energy Research, Development and Demonstration of the Comm. on Science and Technology*, 94th Cong., 1st Sess. 13 (1975).

to both potential producers and consumers are formidable. State and federal governments thus may find it desirable to offer assistance in the form of financial assistance to research and development, as well as tax incentives for commercial and private utilization. In addition to offering support of this type, governments will need also to prescribe protective standards and other regulatory measures.

Financing research and development is of nationwide importance and logically is a matter for the federal government. Congress has already taken certain steps in this area. The Solar Heating and Cooling Demonstration Act, for example, directs that $60 million be applied to promote the practical use of solar technology.[92] Another statute, the Solar Energy Research, Development and Administration Act, allocated $77 million for research and development of solar energy on a commercial scale.[93] Some states have taken their own initiatives in funding research and development facilities which can provide information on solar energy.[94] Cooperative funding efforts such as these flow naturally from the state and federal governments' mutual interest in the development of clean energy.

Even under present technology, widespread use of solar energy systems for heating and cooling residences and commercial buildings is feasible, and some states may wish to encourage such use due to the diminishing supply of fossil fuels. The most effective tool available for a state to implement such policies traditionally has been the tax incentive. Specifically, exempting the construction and maintenance of solar energy facilities from state sales taxes, ad valorem taxes, corporate taxes, and in some states income taxes will provide a financial incentive to solar energy use.[95] Corporations manufacturing equipment for such systems also could be given tax relief. Several states have already enacted such measures into their tax codes. The federal government, of course, could provide similar incentives through the federal income taxation system, and such proposals are presently being considered by Congress.[96] Because each level of government has its own tax system, intergovernmental conflicts seem unlikely; rather, the coexistence of

92. 42 U.S.C. §§ 5501-5517 (Supp. V, 1975).
93. *Id.* §§ 5551-5566.
94. ARIZ. REV. STAT. ANN. §§ 41-571 to -575 (Supp. 1976-77); FLA. STAT. § 74.185 (1974); N.M. STAT. ANN. §§ 4-37-1 to -37-3 (Supp. 1976).
95. Illinois provides an exemption of up to $2000 from valuation of real property for installation of a solar energy heating or cooling system. ILL. REV. STAT. ch. 120, § 19-23-2 (1959). New Mexico has a provision granting a tax credit on personal income tax of 25 percent of the cost of equpment to an individual installing a solar unit. N.M. STAT. ANN. § 72-15A-11.2 (1976). Texas has exempted sales of solar energy devices from taxation. TEX. REV. CIV. STAT. art. 20.04 (1976).
96. H.R. 8452, 94th Cong., 2d Sess. (1976); H.R. 3848, 94th Cong., 2d Sess. (1976).

state and federal measures increases the incentive to produce and utilize solar devices.

The potential proliferation of solar energy users will call for some sort of governmental controls establishing, protecting, and regulating rights in solar power. Obstructions blocking access to the sun, for instance, would render units ineffective or totally useless. Although at common law prescriptive rights to light could be acquired through use over a period of years,[97] many American jurisdictions have abrogated the right to acquire such easements.[98] Nor has any other sort of right to the free flow of light across adjoining lands been recognized,[99] though litigation of this issue has been scarce. If solar users are to be assured a continuing supply of their energy source, therefore, it will be necessary for states to create and define legislatively solar rights as a form of property right. Indeed, establishment of such rights would seem a necessary prerequisite to the consumer's substantial investment in solar equipment. Protection of this investment is clearly within the state's police power. Another area of police power regulation potentially requiring action to permit and encourage solar energy use involves modification of restrictive zoning controls governing residential architecture. Building codes also may require amendment.

Although these areas of regulation are preeminently within state control, a substantial supportive role can be served by the federal government. In 1928 the United States Department of Commerce

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97. In England, the common law recognized a right to a prescriptive easement in light. *See* Colls v. Home & Colonial Stores Ltd., [1904] A.C. 179. The common law right was later granted recognition by Parliament and enacted into statute. *See* The Rights of Light Act of 1959, 7 & 8 Eliz. 2 ch. 56.

98. *See, e.g.*, Keats v. Hugo, 115 Mass. 204 (1874); Krulikowski v. Tide Water Oil Sales Corp., 251 Mich. 684, 232 N.W.223 (1930); Austin v. Bloch, 165 Ore. 116, 105 P.2d 868 (1940). These cases reasoned that there could be no adverse user of light, since the actual enjoyment of light occurs on one's own land and involves no encroachment on a neighbor's property. Moreover, light easements were considered contrary to the rapid growth of communities. Haverstick v. Sipe, 33 Pa. 368 (1859).

99. *See* Taliaferro v. Salyer, 162 Cal. App. 2d 685, 328 P.2d 799 (Dist. Ct. App. 1958); Fountainbleau Hotel Corp. v. Forty-Five Twenty-Five, Inc., 114 So. 2d 357 (Fla. App. 1959). In *Fountainbleau Hotel* a 14-story addition to an existing hotel would cast a shadow over the cabana, swimming pool, and sunbathing areas of an adjacent hotel during the winter months. An injunction against construction of the addition was denied, the court holding that no cause of action for either damages or injunction arises where a structure blocks light from adjoining property if the structure serves a useful purpose. 114 So. 2d at 359. The court stated:

> No American decision has been cited, and independent research has revealed none, in which it has been held that—in the absence of some contractual or statutory obligation—a landowner has a legal right to the free flow of light and air across the adjoining land of his neighbor. Even at common law, the landowner had no legal right in the absence of an easement or uninterrupted use and enjoyment for a period of 20 years, to unobstructed light and air from the adjoining land.

Id.

published a Standard State Zoning Enabling Act[100] as a model for state legislative enactments empowering local governments to establish land use controls. A modification of this Act to protect and encourage solar energy use would both aid states in amending their own laws and promote uniformity among the states. This is only an example of the potential guidance and technical assistance which the federal government, with its vast resources, is capable of providing to the states.[101]

Geothermal Resources

A second energy source inviting cooperative state and federal action derives from the molten mass known as magma, which is usually found 20 miles below the earth's crust.[102] Fissures in the earth's crust permit the magma to approach the surface, enabling man to exploit it as a source of energy.[103]

Since geothermal resources are a complex mix of water, thermal energy, gas, hot rocks, and possibly other mineral byproducts, a fundamental legal problem associated with them is one of classification.[104] Ownership and control of such resources on lands subject to prior mineral conveyance by the federal government are in question due to this lack of definite classification. Different laws deal with ownership and control of the minerals, gas, and water found on lands within known geothermal resource areas [KGRA].[105] Prompt and beneficial development of geothermal resources is dependent on determining which set of laws is the applicable one. For instance, federal rights in geothermal energy under mineral reservations contained in various conveyances of public land are dependent on this resource being classi-

100. U.S. DEPT. OF COMMERCE, STANDARD CITY PLANNING ENABLING ACT (1928).

101. The federal government also could force state statutory modification by conditioning federal housing or other assistance thereon. *See* text & notes 25-29 *supra.*

102. Bjorge, *The Development of Geothermal Resources and the 1970 Geothermal Steam Act—Law in Search of a Definition*, 46 U. COLO. L. REV. 1, 2 (1974).

103. Geothermal energy resources are of four types: dry steam, hot mineralized water, hot dry rock, and geopressured zones. The dry steam system is typified by geysers such as those in California. This system contains both water and steam in a reservoir. *Hearings on H.R. 8628 and H.R. 9658 Before the Subcomm. on Energy of the House Comm. on Science and Astronautics*, 93d Cong., 1st Sess. 17 (1973). The hot water system consists of hot water fields often found at depths of up to 10,000 feet. COMPTROLLER GENERAL OF THE U.S., PROBLEMS IN IDENTIFYING, DEVELOPING AND USING GEOTHERMAL RESOURCES 20 (1975). Energy from these fields can be produced by the hot water or flashing stream. The hot dry rock system differs from the other geothermal sources since it contains no fluid. It would be necessary to introduce water into the system to be heated by the surrounding hot rocks. The final system is the geopressured zone. The zones consist of water-laden sand and clay at temperatures up to 283° C. contained within impermeable layers. *Id.* at 22. It is felt that the water in the zone probably contains a significant amount of methane gas in solution.

104. SCIENCE POLICY RESEARCH DIVISION, CONGRESSIONAL RESEARCH SERVICE, 93D CONG. 2ND SESS., REPORT PREPARED FOR THE SUBCOMM. ON ENERGY OF THE COMM. ON SCIENCE AND ASTRONAUTICS, ser. Q (Comm. Print 1974).

105. Geothermal Steam Act of 1970, 30 U.S.C. § 1001(e) (1970).

fied as a mineral.[106] If the mineral classification is upheld, however, no established leasing authority for geothermal resources on federally controlled offshore lands will exist.[107]

Courts have varied in their classification of geothermal resources, and have classified them differently for different purposes.[108] None seems satisfactory; having characteristics of water, mineral, and gas, geothermal resources fit neatly into no category. Water is merely a transport mechanism for the energy, and sometimes must be artificially introduced into the system. The steam produced, on the other hand, is a result of the resource and not the resource itself. Nor does geothermal energy have the characteristics traditionally associated with a mineral.[109] Probably the most logical resolution of the classification problem would be a distinct classification of geothermal resources and enactment of separate regulations governing them.[110] Since most of the classification problems arise in the context of federal laws and regulations, corrective action also must take place at the federal level.[111]

106. Prior to 1970 development of geothermal resources was not undertaken on public lands because the Department of the Interior had taken the position that geothermal resources were not minerals and that it lacked authority to dispose of geothermal resources contained in public lands under its control. Bjorge, *supra* note 102, at 5. In response, Congress enacted the Geothermal Steam Act of 1970 which provided that mineral reservations on land conveyed by the government, after enactment of the Act, are deemed to include goethermal resources. 30 U.S.C. § 1024 (1970). However, the particular problem of mineral ownership on lands conveyed before the 1970 Act is left unresolved. Under the Stock Raising Homestead Act of 1916, 43 U.S.C. §§ 291-302 (1970), the government conveyed 14,000 acres within known geothermal resource areas [KGRA] while retaining ownership of "coal and other mineral rights." There was no agreement within the House Committee on Interior and Insular Affairs in the drafting of the 1970 Act as to whether these mineral reservations included geothermal steam and associated geothermal resources. *See* Bjorge, *supra* at 9. In 1972, the government brought suit against the Union Oil Co. of California to determine whether these mineral reservations included geothermal energy being produced by Union Oil. The court treated geothermal resources as water and ruled that since water is not a mineral, geothermal resources are not reserved under a mineral reservation. United States v. Union Oil Co., 369 F. Supp. 1289, 1297 (N.D. Cal. 1973). The case is being appealed by the government.

107. Two-thirds of the known geopressurized zones lie off the coasts of Texas and Louisiana in the Gulf of Mexico. Section 4 of the Outer Continental Shelf Lands Act, 43 U.S.C. § 1333 (1970), provides that "mineral leases" on the Outer Continental Shelf shall be maintained as issued only under provisions of this law. Section 23(b) of the Geothermal Steam Act of 1970 provides that geothermal steam and associated geothermal resources underlying lands owned by the United States may be acquired solely in accordance with the provisions of this Act. 30 U.S.C. § 1022 (1970). Thus, there is no clearly established authority for the leasing of geothermal resources on offshore lands under the control of the federal government if the resource is classified as a mineral.

108. *Compare* United States v. Union Oil Co., 369 F. Supp. 1289 (N.D. Cal. 1973) (involving mineral reservation), *with* Reich v. Commissioner, 454 F.2d 1157 (9th Cir. 1972) (tax classification).

109. There has even been some question as to whether oil and gas fit into the mineral classification. *See generally* MacMaster v. Onstad, 86 N.W.2d 36 (N.D. 1957); Murray v. Allard, 100 Tenn. 100, 43 S.W. 355 (1897); 1 E. KUNTZ, LAW OF OIL AND GAS 305 (1962); 1 H. WILLIAMS & C. MEYERS, OIL & GAS LAW § 219 (1975).

110. Congress already has enacted legislation extending federal mineral reservations to include geothermal resources. 30 U.S.C. § 1024 (1970). See discussion note 106 *supra*.

111. Another problem which may impede prompt development of geothermal re-

The primary problem area involving potentially conflicting state and federal laws involves the presence within a KGRA of lands subject to the jurisdiction of different governmental entities. Under the Geothermal Steam Act of 1970, the Secretary of the Interior has discretion to conserve properly the geothermal pool and to require lessees to unite and operate collectively as a unit.[112] State and privately owned land adjacent to the federal lands within a KGRA is subject to control and regulation by the states.[113] Responsibility for the management of a single geothermal reservoir that underlies lands controlled by separate jurisdictions thus must be assigned.

The problems which might arise due to separate jurisdictional control are well illustrated by the experience of the petroleum industry. The rule of capture has characterized petroleum exploitation in the United States with unfortunate results;[114] each developer, being entitled to whatever oil he could produce, literally raced to extract oil to protect his interest. This resulted in waste, and, on occasion, damage to the underlying oil pool.[115] The rule of capture has recently been tempered by basin management concepts;[116] however, these controls came late to the petroleum industry. To insure the beneficial development of geothermal resources and to prevent overproduction of the field, such controls should be introduced at the earliest possible state of development. The reduced output from a geothermal well due to overproduction can result in a loss of pressure within the well that can preclude the further generation of energy from the source. The uncertainty resulting from this doubt as to the potential duration of the source could discourage a geothermal developer. He must have reasonable assurance that the geothermal resource will support the generating facility for a sufficient period to justify the investment.

Regulations contained within the 1970 Act require compulsory pooling, and unitization in production[117] which allows all lessees of a

sources is confusion over ownership of byproducts—minerals contained in solution with the associated fluids of the system. Under the Geothermal Steam Act of 1970, 30 U.S.C. § 1001(c)(iv) (1970), the definition of geothermal steam and associated geothermal resources includes any byproduct derived from them. If it is valuable, the holder of a previous mineral grant has a right to the mineral. *See id.* § 1008. If its value is less than 75 percent of the value of the geothermal resource, then it belongs to the geothermal resource lessee. *See id.* § 1001(d). This system of byproduct allocation appears to result in a potential windfall to the holder of a prior grant. It would seem more equitable to grant the geothermal resource lessee any benefits that may be derived from his investigations, capital outlays, and other efforts. Again, this is a change which must come from the federal government.

112. *Id.* §§ 1001-1025.

113. *Id.* § 1002.

114. 1 R. MYERS, THE LAW OF POOLING AND UNITIZATION § 1.01 (2d ed. 1967).

115. 1 H. WILLIAMS & C. MEYERS, *supra* note 109, at § 204.6.

116. Shank, *Present Status of the Law of Capture*, SOUTHWESTERN LEGAL FOUNDATION, SIXTH ANNUAL INSTITUTE ON OIL AND GAS LAW AND TAXATION 297 (1955).

117. 30 U.S.C. § 1017 (1970).

common pool to share equally in the production. Such a plan seems to be a significant step in solving the problem of overproduction. Some states have taken similar action. New Mexico, for example, has enacted legislation which permits holders of state geothermal leases for the same reservoir to enter voluntarily into agreements to enhance production, with the state regulating production for maximum recovery.[118] However, the discretion is that of the developer, not the state. Consideration should be given to a functional management system, involving both state and the federal governments, that insures to each developer the control over its respective lands but, at the same time, guarantees the proper use and development of the geothermal resource by minimizing waste. A cooperative plan seems to be the most promising scheme since it takes into account the unique nature of the geothermal resource.

A governmental role in promoting geothermal development also seems an appropriate concomitant to the regulatory function. Federal tax incentives that would encourage industrial development of geothermal resources should be made available. Tax writeoffs for geothermal extractive industries, depletion schedules and depletion allowances for geothermal resources, and capital gains treatment for profits would be important economic incentives if offered to geothermal industries. The state could also offer tax incentives that would favor geothermal industries. Property used in the extraction of geothermal resources could be exempted from ad valorem property taxes, and equipment purchased for the extraction could be exempted from sales taxes. Additionally, income realized from the manufacturing and sale of equipment for the extraction of geothermal resources could be exempted from state income taxes.

Wind Energy

Wind energy, another alternative energy source in the development stage, also seems amenable to concurrent state and federal lawmaking. Aside from the obvious difficulty that only certain areas of the nation have sufficient sustained wind velocity to allow the economic utilization of this energy source, the major impediment to prompt implementation of wind energy systems may involve legal questions of aesthetic pollution. The objection to electrical transmission towers as aesthetically degrading would appear to foretell the public reaction to windmill towers;[119] the possibility of a windmill on every other roof will

118. N. M. STAT. ANN. § 65-11-11(c) (Supp. 1975).
119. Centralized high power windmills could be located in areas where objections

probably be even less acceptable. Indeed, building codes and zoning height regulations on the state and local level may now preclude the installation of windmills or may be so used in the future. Federal and state governments should act cooperatively in this area to test and encourage public acceptance of windmills. State governments, with possible federal assistance, can also make any changes in state enabling laws necessary to allow local zoning and building code changes favorable to wind energy utilization.[120]

Several additional problems arise from attempts to harness wind energy. A difficulty shared with solar energy is the lack of a recognized legal interest in the energy source. Courts presently do not recognize any right to the air flowing across the land of another.[121] Unless sufficient spacing is maintained, adjacent units could interfere with one another, thus discouraging widespread utilization. Further, the public acceptance problem could be exacerbated if a potential user's right to operate his unit without interference remains uncertain. State legislation recognizing and protecting wind energy rights is the preferable solution; in its absence, local zoning controls can remedy the situation, albeit less effectively.

Other problems arise from the lack of legal standards defining ownership in the atmosphere and its currents. Rights to wind energy from federal and state lands must be determined, and appropriate leasing procedures established. Moreover, possible windmill interference with television and microwave transmissions must be anticipated and dealt with. Construction of other tall structures—electrical transmission towers, skyscrapers, and others—has been allowed even though it interfered with electromagnetic transmissions. State and federal entities with responsibility for communications and energy development should confer regarding this problem and attempt to reconcile the competing interests.

Energy from Solid Waste

Finally, attention should focus on the use of solid waste to create energy, an area which has been the object of considerable recent fed-

would be less likely, such as rural locations or industrial areas. However, the larger units, approximately 200 feet in height, might encounter objections if located in urban areas, along coast lines, in recreation areas, or near historical locations. The possibility of public objection to the windmills may delay their prompt utilization, since such utilization will require public acceptance. Industrial and financial institutions, if unconvinced of public acceptance, will not make the necessary investments to promote the development of wind energy systems.

120. See text & notes 97-101 *supra.*

121. *Cf.* Fountainbleau Hotel Corp. v. Forty-Five Twenty-Five, Inc., 114 So. 2d 357 (Fla. App. 1959). See text & note 97-99 *supra.*

eral and state attention.[122] Organic waste, which constitutes over half of the total waste generated each year,[123] can produce sufficient energy to replace at least half of present oil imports.[124] Development of this promising energy source depends on interrelated efforts of state, federal, and local governments.

In general, the municipalities are responsible for and bear the cost of collection and disposal of solid waste. This would seem to imply that the municipalities should also be responsible for implementing programs whereby recovery from solid waste would become possible. However, the initial planning and construction costs involved in converting from a disposal system to a recovery system may be prohibitive to the municipalities. Further, the quality of solid waste required to be fed into a processing unit to insure its efficient operation may require the joint operation of a unit by several municipalities, resulting in shared benefits and requiring cooperative planning and development. With no municipality having more authority than another, disputes among the municipalities concerning site location and distribution of the benefits could lead to unnecessary delays in the planning and development of the processing unit.

A plan implemented by the states with the cooperation of the municipalities appears to be a possible solution. A statewide plan would help to insure efficient planning and maximum utilization of solid waste through larger, strategically located processing units. The states could assist also in financing the planning and construction costs of the processing units. The aid of the federal government would significantly add to these cooperative efforts. Unfortunately, however, the federal government presently appears to lack a strong commitment to solid waste recovery, at least in part because waste disposal has been considered a local rather than national matter. The thrust of waste management was redirected from disposal to resource recovery and

122. THE COUNCIL OF STATE GOVERNMENTS, THE STATE'S ROLE IN SOLID WASTE MANAGEMENT (1973). Examples of solid waste include household garbage, general litter, and wastes from agriculture, animals, and mineral processing.

123. COMPTROLLER GENERAL OF THE U.S., USING SOLID WASTE TO CONSERVE RESOURCES AND TO CREATE ENERGY 43 (1975).

124. As an end result of production and consumption, there is an annual production of 700 million dry tons of organic waste produced yearly, representing 10 quadrillion BTU's of energy. Presently, 6.6 quadrillion BTU's of energy are imported each year. The utilization of all 700 million tons of organic waste would negate the necessity of energy imports and satisfy the goal of energy self-sufficiency. 121 Cong. Rec. H6378 (daily ed. July 8, 1975). In a less optimistic estimate, the Environmental Protection Agency [EPA] has estimated that approximately 80 percent of the total municipal waste could be used to generate energy; if energy recovery were practiced in all major urban areas, according to the EPA, the energy produced would be equivalent to more than half of the 1972 oil imports from the Middle East. COMPTROLLER GENERAL OF THE U.S., *supra* note 123.

federal involvement initiated by the Resource Recovery Act of 1970,[125] authorizing the Secretary of Interior to carry out demonstration projects.[126] Still, the federal effort in this area has not significantly progressed.

The federal role should be much greater. In addition to financing research and implementation projects, the federal government should coordinate overall research efforts, providing technical assistance to state and local governments, providing the necessary incentives for increased use of recycled materials, and increasing the awareness of state and local governments of the potential benefits of energy and resource recovery from solid waste. Should the states fail to begin prompt utilization of solid waste due to economic pressures or convenience, the federal government has the authority and means to overcome these problems. Solid waste is a problem national in scope and interstate in character. Prompt development of energy recovery from solid waste will require an expanded and accelerated federal role. Strong legislation is necessary to insure adequate federal support, guidance, and initiative.

The federal government, in addition, must take steps to make the economics of energy recovery from solid waste more attractive. Although state action toward this goal is also possible, the states acting alone cannot eliminate the presently existing economic disincentives. The problem lies in three primary areas: discriminatory freight rates, federal procurement policy toward products containing recycled materials, and taxes favoring utilization of depletable energy resources.

The cost of transportation may be determinative of whether energy recovery from solid waste can be economical. The marketability of recovered energy will depend on its economic competitiveness with virgin materials used as energy sources. Evidence shows that the freight rate structure discriminates against some secondary materials in favor of virgin materials.[127] Since delivery cost represents a large percentage of the price of solid waste, such discrimination in the rate structure places recovered energy at a serious disadvantage in its economic competition with virgin resources.

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125. 42 U.S.C. §§ 3251-3254f, 3256-3259 (1970).

126. *Id.* § 3253(b).

127. COMPTROLLER GENERAL OF THE U.S., *supra* note 123, at 29; *cf.* Aberdeen & Rockfish R.R. v. S.C.R.A.P., 422 U.S. 289 (1975)

There is, however, disagreement about whether rates charged actually discriminate. The Interstate Commerce Commission believes the so-called rate disparities stem from the differences between the transportation characteristics of primary and secondary materials. *See Ex parte* 281, Increased Freight Rates and Charges, 346 I.C.C. 88 (1973). Scrap material is generally less dense than virgin material and, therefore, requires more handling and greater volume of cargo space, which factors supposedly result in the higher shipping cost attributed to secondary materials.

A second important factor in ensuring the economic feasibility of energy recovery from solid waste is the marketability of inorganic materials separated during processing; such sales could help offset the necessary cost of processing the solid waste. The federal government, although the largest single purchaser of many United States goods and services, consumes less than 4 percent of gross domestic output.[128] On the surface, then, it would appear that the effects of federal government purchases would be minimal; however, a government program aimed at the use of recovered materials should increase public awareness of the potential for recycling. Moreover, the widespread circulation of federal specifications on recycled material would tend to encourage state and local governments, as well as the private sector, to utilize these materials. Similar purchase policies by the states could add significantly to the development of the recovered energy market. According to the Environmental Protection Agency [EPA], federal procurement regulations in the past have favored the purchase of products containing virgin materials, requiring in certain cases that they be purchased in preference to products containing secondary materials.[129] The General Services Administration responded by instituting a program emphasizing the procurement of products containing secondary materials.[130] This program, aimed primarily at paper products, should be expanded so as to give maximum incentive to potential developers of energy from solid waste.

Finally, changes in the system of tax incentives are necessary. Capital gains treatment for profits, tax writeoffs for extractive industries, depreciation schedules, and depletion allowances favor the use of virgin materials. These allowances promote the use of virgin resources in place of secondary materials, in effect subsidizing virgin material use. The system of tax incentives should be reversed to favor the utilization of solid waste.

REGULATION OF ENERGY DISTRIBUTION

The allocation schemes which attend the energy crisis provided an example of both conflict and cooperation. The federal Emergency Petroleum Allocation Act[131] had specific provisions for a state role in

128. COMPTROLLER GENERAL OF THE U.S., *supra* note 123, at 37.
129. *Id.* at 35.
130. *Id.*
131. 15 U.S.C. §§ 751-753 (Supp. V, 1975). In Section 2 of the law, the reasons for its passage are set out. The Congress was concerned that "shortages of crude oil, residual fuel oil and refined petroleum products . . . have created or will create severe economic dislocations . . . reduction of crop plantings and harvesting, and curtailment of vital public services [which] jeopardize the normal flow of commerce and constitute a

allocating petroleum.[132] In some states cooperation was amicably achieved, while in others the procedures resulted in strong state objections. Since the federal government has exerted authority over distribution, it is likely that in future shortages the federal government may exert even greater controls. Given that these controls will be a result of shortages and that the goal of the states will be to obtain as much fuel for their own citizens' needs as they can, conflict seems inevitable.

The transport of energy falls to a large extent within federal regulatory authority since energy transit involves interstate commerce. Whether by pipeline or other means, the federal government, through the Interstate Commerce Commission [ICC] and the FPC, largely controls the transport of energy. However, there does exist a role for the states, particularly in controlling the distribution of electrical energy.

Electric Utilities

The electric utility industry is currently undergoing extensive transformation resulting from recent energy shortages, escalating costs, and increased public indignation at rising prices for electricity service. In the current context striking the necessary balance between investor and industry interests on one hand, and consumer interests on the other, has become an exceedingly complex process. Several federal

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national energy crisis which is a threat to the public health, safety and welfare . . . ." *Id.* § 751(a).

To avoid the existing and potential crisis thus identified, Congress directed the establishment of a mandatory allocation system for petroleum with the intention of fulfilling a series of specific objectives. As explained in the conference report, the list of objectives "is not intended to establish any order of priority." *See generally Conference Report, Joint Explanatory Statement of the Committee of Conference*, H.R. No. 93-628, 93d Cong., 1st Sess. (1973) in U.S. CODE CONG. & ADMIN. NEWS 2688 (1973). Rather, the Executive is to attempt to achieve all the objectives, "to the maximum extent practicable." 15 U.S.C. § 753(b)(1) (Supp. V, 1975). The objectives to be fulfilled are as follows:

> (A) protection of public health, safety, and welfare . . . and the national defense; (B) maintenance of all public services . . . ; (C) maintenance of agricultural operations . . . ; (D) preservation of an economically sound and competitive petroleum industry [with the need "to preserve the competitive viability of independent refiners, small refiners, nonbranded independent marketers, and branded independent marketers" specifically identified]; (E) the allocation of . . . crude oil to . . . permit . . . refineries to operate at full capacity.

Id.

132. An important aspect of FEA's implementation of the Act, one almost uniformly praised, was the state set-aside program. The state offices of petroleum allocation were established by regulation, presumably under the directive in the Act that "[t]he President may delegate all or any portion of the authority granted to him under this act to such officers, departments, or agencies of the United States, or to any State (or officer thereof), as he deems appropriate." 15 U.S.C. § 759(b) (Supp. V, 1975). The authority delegated in the regulations is rather narrow, applying only to administration of the set-aside. 10 C.F.R. §§ 211.15, .17 (1976). The states have no authority at all over fuel coming into the state which does not fall into the 3 percent which is theirs exclusively to administer.

agencies have limited authority over electricity distribution;[133] however, the primary governmental control in this area has traditionally been with the states. State public utility agencies generally have the power to prescribe fair and reasonable rates and charges, classifications, and standards of quality and measurement, and to establish a uniform system of accounting and reporting by each public utility.[134] Further, such agencies oversee repairs, improvements, additions, and extensions to the facilities of a public utility which are necessary to provide adequate service and promote the convenience and welfare of the public.[135] The authority of the states to act in the area of distribution of electricity is well recognized.[136] However, since new and possibly untried methods are called for in dealing with the current energy situation, constitutional limitations on state power should be carefully delineated.

An important source of limitation on state power to deal in the area of electricity distribution is the preemptive authority of the various federal agencies.[137] For example, the FPC has authority over interstate sale of electricity,[138] and requires all public electric utilities to make periodic reports of their operations and accounts.[139] Additionally, it plays an important role in the planning and coordination of regional electric generating facilities.[140] It may order a public utility to connect its transmission facilities with facilities of one or more individuals engaged in the transmission or sale of electrical energy, and to sell or exchange energy with such individuals.[141] In the event of an emergency, the FPC may require temporary connections of facilities and such generation, delivery, interchange, or transmission of electric energy as it decides will best remedy the situation.[142] Another federal agency with responsibilities which affect electric utilities is the EPA.

133. The Federal Power Commission, the Nuclear Regulatory Commission, and the EPA exercise only limited control over the electric power industry, leaving the bulk of authority to state regulatory agencies. See text & notes 137-44 *infra.*

134. M. FARRIS & T. SAMPSON, PUBLIC UTILITIES: REGULATION, MANAGEMENT AND OWNERSHIP 69-71 (1973).

135. *See, e.g.*, FLA. STAT. § 366.05(1) (1967). There are two major legal obligations imposed by the states on "business affected with a public interest" which are not imposed on other privately owned businesses. First, they are required to supply their goods or services indiscriminately to all members of the public entitled to them. M. FARRIS & T. SAMPSON, *supra* note 134, at 21. *See generally* Munn v. Illinois, 94 U.S. 113 (1877). Second, public utilities must sell their product at prices or rates which are "just and reasonable." M. FARRIS & T. SAMPSON, *supra.* Enforcement of these obligations is the primary goal in state regulation of public utilities.

136. *See generally* M. FARRIS & T. SAMPSON, *supra* note 134, at 21.

137. See text & notes 11-24 *supra.*

138. 16 U.S.C. § 824 (1970).

139. *Id.* § 825.

140. S. BREYER & P. MACAVOY, ENERGY REGULATION BY THE FEDERAL POWER COMMISSION 89-121 (1974).

141. 16 U.S.C. § 824(a)-(b) (1970).

142. *Id.* § 824a(d).

The EPA, concurrently with state environmental agencies, has authority over the environmental impact of electric utility policies.[143] Finally, the Nuclear Regulatory Commission is empowered to deal with the production of nuclear energy.[144]

Thus the federal government maintains a significant level of authority over certain specific regulatory areas related to the generation of electricity.[145] This authority is direct and affirmative, as in the determination of fuels and direct regulation of interstate sales by the FPC, as well as indirect and negative, as in the area of environmental protection by the EPA. Up to this time, however, there has been no agreement among the branches of the federal government regarding the direction a comprehensive regulatory scheme should take. State and local governments and private individuals are left to exercise considerable authority to deal with the evolving electricity conversion problem. Given this option, the states have generally chosen to concentrate on electricity distribution issues, such as rate structures, rather than to confront directly the conversion problem. It should also be noted that the

143. The EPA is directed by the Federal Water Pollution Control Act to adopt and publish effluent limitations on the discharge of pollutants into the waters subject to federal jurisdiction. 33 U.S.C. § 1314 (Supp. V, 1975). Permits are required when any discharge into navigable waters will take place and will be issued if the applicant meets certain standards. *Id.* § 1341(a)(1). States are permitted to establish water quality standards, provided they are consistent with the Act. *Id.* § 1313(a). The Administrator of EPA is also required under the Clean Air Act to promulgate national primary and secondary ambient air quality standards. 42 U.S.C. § 1857(c)(4) (1970). States are responsible for enforcing such standards and for adopting implementation plans which must be approved by the Administrator. *Id.* § 1857(c)(5). If the Administrator disapproves of a plan, or if no plan is submitted, he can propose regulations setting forth an implementation plan for that state. *Id. See generally* Huron Portland Cement Co. v. City of Detroit, 362 U.S. 440 (1960).

144. The regulatory functions of the Atomic Energy Commission have been transferred to the Nuclear Regulatory Commission pursuant to the Energy Reorganization Act of 1974, Pub. L. No. 93-438, 88 Stat. 1233 (codified in scattered sections of 5, 42 U.S.C.). The Office of Nuclear Reactor Regulation was created within the Commission to perform licensing and regulation functions involving nuclear facilities. 42 U.S.C. § 5843(b) (Supp. V, 1975). The Office of Nuclear Material and Safety and Safeguards deals with the processing, transport, and handling of nuclear materials. *Id.* § 5844.

145. There is some indication that Congress may attempt to set guidelines for the design of rate structures by state regulatory agencies. The proposed Electric Utilities Rate Reform Act of 1975, S. 1666, 94th Cong., 1st Sess. 3 (1975); H.R. 6696, 94th Cong., 1st Sess. 3 (1975); *cf.* 15 U.S.C. §§ 761-786 (Supp. V, 1975), would have required the regulators to apply a longrun incremental cost analysis in establishing rate structures which would distribute the "costs proportionately among consumer classes to the degree their consumption patterns are responsible for such costs." S. 1666, *supra*, at § 5(c); H.R. 6696, *supra*, at § 5(c). State commissions also would be required to institute some system of peak load pricing. S. 1666, *supra*, at § 5(b); H.R. 6696, *supra*, at § 5(b). Additionally, the bill contained standards for treatment of promotional and advertising expenses, S. 1666, *supra*, at § 7; H.R. 6696, *supra*, at § 7, fuel adjustment clauses, S. 1666, *supra*, at § 8; H.R. 6696, *supra*, at § 8, and life line rates. S. 1666, *supra*, at § 6; H.R. 6696, *supra*, at § 6. The President's omnibus energy proposal also deals with state regulation of electric utilities. President's Energy Proposal, S. 594, 94th Cong., 1st Sess. (1975); H.R. 2633 & 2650, 94th Cong., 1st Sess. (1975). Title VII of the proposal would have permitted electric utilities to price energy below cost during off-peak time periods. The proposal also would have dealt briefly with procedures for rate increases. S. 594, *supra*, at §§ 704-706; H.R. 2560, *supra*, at §§ 704-706.

electric utilities themselves maintain considerable control over the equipment used, the proposed sites to be developed, and the fuels to be burned. While the states have considerable power to regulate conversion they have generally failed to exercise this power except in the context of other issues.

Natural Gas Utilities

Natural gas is currently under extensive control by the FPC. Federal regulation began as early as 1938[146] as a result of requests by states which have been frustrated in their attempts to deal with the vertically integrated industry[147] at the local level. During this early period, the Supreme Court had effectively precluded state regulation of interstate natural gas as being in violation of the commerce clause.[148] States were permitted to regulate only where interstate commerce ended and intrastate commerce began, that is, where pipeline pressure was reduced and gas passed into local distribution systems.[149] This left the states free to control rates charged by distributors to local consumers, but unable to control prices charged by interstate pipeline companies to distributors. The purpose of the Natural Gas Act was to fill this gap between production and distribution in which the states could not act. The FPC was given regulatory authority over the interstate transportation of natural gas, including the power to set "just and reasonable" rates.[150] Direct sales and intrastate distribution are not within the Commission's jurisdiction,[151] although there have been proposals to extend its power into this area.[152]

Thus, states that import most of their natural gas supply must leave regulation largely to the federal government; however, the regulatory situation may face future changes. One of the most controversial issues in regulatory circles today is the question of decontrol or deregulation of the natural gas industry. Advocates of deregulation point to FPC price regulation as the cause of the current gas shortage.[153] There is general agreement that domestic natural gas reserves are sufficient for domestic needs for at least the remainder of the century, given reason-

146. Natural Gas Act of 1938, 15 U.S.C. § 717 (1970).
147. R. Huitt, *National Regulation of the Natural Gas Industry*, in PUBLIC ADMINISTRATION AND POLICY FORMATION 58 (E. Redford ed. 1956).
148. *See* Pennsylvania v. West Virginia, 262 U.S. 553 (1923); West Virginia v. Kansas Natural Gas Co., 221 U.S. 229 (1911).
149. East Ohio Gas Co. v. Tax Comm'n, 283 U.S. 465 (1931).
150. 15 U.S.C. § 717(d) (1970).
151. *Id.* § 717(c).
152. *See* 114 B.N.A. ENERGY USERS REP. A-17 (1975).
153. HEARINGS PURSUANT TO S. RES. 45 BEFORE THE SENATE COMM. ON INTERIOR AND INSULAR AFFAIRS, 92D CONG., 2D SESS., NATURAL GAS POLICY ISSUES 788-89 (Comm. Print 1972) [hereinafter cited as NATURAL GAS POLICY ISSUES].

able efforts to locate and produce the gas.[154] Yet, production has not expanded to meet the demand requirements,[155] and the impact of the shortage has been felt primarily by interstate residential consumers, the group regulation is intended to benefit most.[156] It is argued that deregulation would effectively correct the shortage since it would induce exploration and development of supplies not currently economical to develop.[157] Opponents counter that there are shortages of other petroleum products not subject to regulation; thus, this factor cannot be blamed for the industry's failure to develop available resources. A major point of contention centers on whether the industry would be sufficiently competitive without regulation to operate in a manner not detrimental to the consumer. Proponents of deregulation assert that the industry is "workably competitive," pointing out the relatively low degree of ownership concentration in the production of gas and in reserve holdings for future production.[158] The argument is that without regulation, prices would rise to the marketclearing level and compete with other alternative supplies available to consumers. Opponents of deregulation, on the other hand, are adamant in their position that the industry is not workably competitive and must be regulated to protect consumers from exploitation.[159] Petroleum companies are characterized as approaching oligopolistic control of all energy resources, thereby becoming full-line vertically integrated energy companies. Thus, deregulation of natural gas producers could result in the companies' using natural gas price increases to obtain higher prices for oil products, coal, and other fuels.[160]

The states will be generally affected by any change in FPC policy, including deregulation schemes. Some states are currently using their limited power over natural gas to allocate gas within their borders.[161] If FPC jurisdiction is broadened to include intrastate sales, state power will correspondingly diminish under the supremacy clause. Any national priority scheme established by the FPC would have to be

154. *Id.* at 749. *See generally* STAFF OF SENATE COMM. ON INTERIOR AND INSULAR AFFAIRS, 93D CONG., 1ST SESS. NATURAL GAS POLICY ISSUES AND OPTIONS 35 (Comm. Print 1973) [hereinafter cited as ISSUES AND OPTIONS].

155. NATURAL GAS POLICY ISSUES, *supra* note 153, at 92.

156. S. BREYER & P. MACAVOY, *supra* note 140, at 83-87.

157. ISSUES AND OPTIONS, *supra* note 154, at 118.

158. Federal Power Commission statistics from the early sixties indicate that the four largest gas producers accounted for less than 10 percent and the 15 largest less than 50 percent of national production. S. BREYER & P. MACAVOY, *supra* note 140, at 60.

159. *See, e.g.*, Statement of David S. Schwartz, Assistant Chief, Office of Economics, Federal Power Commission, December 13, 1973, in *Hearings pursuant to S. Res. 45 Before the Special Subcomm. on Integrated Oil Operations of the House Comm. on Interior and Insular Affairs*, 93d Cong., 1st Sess., ser. 93-24, pt. 3, at 1116-90 (1973).

160. *Id.*

161. NATURAL GAS POLICY ISSUES, *supra* note 153, at 153.

followed by state regulatory commissions in determining end use in individual states. Total deregulation, on the other hand, significantly broadens the states' interest in the distribution and consumption of natural gas in general.

The degree of unhappiness with the program expressed by some states thus gives rise to a suggestion that the states should establish their own allocation system, either to supplement the federal system or to replace it if the Emergency Petroleum Allocation Act expires. The body of federal law on fuel allocation is so extensive, however, that such an independent state system seems inadvisable, and may be preempted. In addition to the fuel allocation act, the Defense Production Act of 1950[162] and the Natural Gas Act[163] both contain provisions relating to fuel allocation. These statutes further illustrate the pervasiveness of federal control in the area and reinforces the preemption argument.

GOVERNMENT ROLES IN ENERGY CONSERVATION

Since the increase in national awareness of the finiteness of traditional energy resources, the need for additional conservation measures has received considerable attention. Unlike the concomitant effort to develop alternative energy sources, conservation involves areas in which strict delineations of federal and state authority have been drawn over the years. The resulting jurisdictional mix may impede prompt implementation of comprehensive conservation programs, though opportunities for coordination do exist and should be utilized.

Building Construction

In the last 8 years, energy consumed in space heating for commercial buildings has almost doubled.[164] There is evidence to suggest that savings of two-thirds in nominal lighting energies can be achieved by available technology.[165] Making energy conservation an overriding concern in the design, construction, and operation of new buildings could result in a savings of about 40 percent of the energy per cubic foot of space now being consumed.[166] The federal-state balance of control over building construction is somewhat nebulous. Although the state has primary control over matters such as zoning ordinances and building codes, it appears that the federal government, through its

162. Ch. 932, 64 Stat. 798 (codified in scattered sections of 50 U.S.C.).
163. 15 U.S.C. §§ 717-17w (1970).
164. R. SLATER & D. MORRIS, ENERGY CONSERVATION IN PUBLIC AND COMMERCIAL BUILDINGS 5093 (Rand Paper Series 1973).
165. *Id.*
166. F. FREEMAN, ENERGY—THE NEW ERA 206 (1974).

spending and taxing powers, may influence energy consumption in buildings in the future. Further, the federal government can influence construction habits by specifications included in such federal loans as those made by the Federal Housing Administration and Veterans Housing Act.[167] Nonetheless, primary control in the area of housing codes resides in the states.

Building regulations are supported by the state police power and, if reasonable, are valid to the extent they promote the common good. So long as the regulation is not arbitrary and tends to promote the public health, safety, morals, or general welfare, it will be upheld.[168] The requisite connection of reasonable regulation and rational relation to legitimate public purpose can be found in the broad public benefits provided by energy conservation.[169] The goal of energy conservation thus is arguably within the ambit of public welfare for which the legislature may act.[170]

The state may lawfully establish retroactive regulations which require reasonable changes in existing buildings to improve energy efficiency. In determining whether a substantive retroactive regulation is reasonable, the essential question under traditional due process notions is whether the public welfare requires retroactive application and whether the property owners affected would suffer an unreasonable burden as compared with the resulting public benefits.[171] Additionally, under substantial due process restrictions, the end sought by the

167. *See Joint Hearings on Conservation and Efficient Use of Energy Before Certain Subcomm. of the House Government Operations Comm. and the House Science and Astronautics Comm.*, 93d Cong., 1st Sess., ser. 14 pt. 1, at 192 (1973).

168. Welch v. Swasey, 214 U.S. 91 (1909). See text & notes 6, 57-59 *supra.*

169. This includes the achievement of reduction of energy consumption in buildings of up to 80 percent in some instances. FLORIDA ENERGY COMMITTEE, A REPORT AND RECOMMENDATIONS OF ENERGY AND ENERGY POLICY IN FLORIDA TO THE GOVERNOR AND THE FLORIDA LEGISLATURE 168 (1974).

170. Criticism of building codes has only recently focused on energy performance criteria. NEW ENERGY TECHNOLOGIES FOR BUILDINGS: INSTITUTIONAL PROBLEMS AND SOLUTIONS, A REPORT TO THE ENERGY POLICY PROJECT OF THE FORD FOUNDATION 171 (J. Stein ed. 1975). Basically, although building codes speak indirectly to energy efficiency of the structure, the objectives of health and safety in the codes have created what is called a specification of materials code, as opposed to a performance code. *Id.* Thus, the materials of construction and the particular techniques of energy use in the building industry tend to be perpetuated through definition of the structure in the building codes. A better approach might conserve energy through definition of performance of the functions of heating, cooling, and lighting. Statement of Keith Beaty, Staff Engineer of the Florida Energy Committee, to the Florida Board of Building Codes and Standards, May 16, 1975 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., Standard 90-75 Workbook, ch. 10 (1975)).

171. Kaukas v. City of Chicago, 27 Ill. 2d 197, 201, 188 N.E.2d 700, 702 (1963). In defining the difference between a valid regulation and an invalid one, the primary question is one of degree. Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 413 (1922). In building regulations, an enactment which is retroactive and places an unreasonable burden on the building owner rather than resulting in public benefit may amount to a taking of property without due process, United States v. City of Chester, 144 F.2d 415 (3d Cir. 1944); unless reasonable compensation is paid to the owner, the enactment would be invalid.

legislature must be a legitimate public purpose, yet the means must not be unreasonable, arbitrary, or capricious.[172] Generally no rights are violated if the sum required to be spent by the property owner is reasonable under the circumstances. For example, the United States Supreme Court upheld a building ordinance requiring the installation of a sprinkler system costing $7,500 in a building worth only $25,000.[173] In another case, the South Carolina supreme court sustained an ordinance which required the plaintiff to repair his rental property at a cost exceeding $575 for each of the over 100 units he owned.[174] The court felt the ordinance to be reasonable and not a taking of property without compensation.[175] Courts have also upheld energy-related housing code requirements, ranging from a provision mandating room heating facilities[176] to a water heater requirement.[177]

In addition to due process constraints, there are two other limitations on police power energy regulations such as those which would be instituted by a state under its building code. The supremacy clause requires that a state statute yield in case of a direct conflict with an exercise by the federal government of its constitutional powers.[178] The remaining restriction on state statutes is the equal protection clause. Equal protection demands that the law have the same effect on all persons and property belonging to the same class and under similar conditions. "The Fourteenth Amendment permits the states a wide scope of discretion in enacting laws which affect some groups of citizens differently than others."[179] A state statute may not be struck down as offensive of equal protection in its scheme of classification unless it is obviously arbitrary; moreover, except in the case of a statute embodying discrimination so patently without reason that no conceivable situations of fact could be found to justify it, the claimant who challenges the statute bears the burden of affirmatively demonstrating that its classifications lack rationality.[180] This presumption of validity places a heavy burden of proof of harm on those challenging the law,[181] and at least where the government is carrying out an essential public service, the statute may be validated simply upon an affirmative showing

172. Nebbia v. New York, 291 U.S. 502 (1934).
173. Queensboro Hills Realty Co. v. Saxl, 328 U.S. 80 (1946).
174. Richards v. City of Columbia, 227 S.C. 538, 88 S.E.2d 683 (1955).
175. *Id.* at 553, 88 S.E.2d at 690.
176. Danker v. City of New York, 20 Misc. 2d 557, 194 N.Y.S.2d 975 (Sup. Ct. 1959).
177. City of Louisville v. Thompson, 339 S.W.2d 869 (Ky. Ct. App. 1960).
178. Gibbons v. Ogden, 22 U.S. (9 Wheat.) 186, 211 (1824). *See* text accompanying notes 12-15 *supra.*
179. McGowan v. Maryland, 366 U.S. 420, 425 (1961).
180. *Id.* at 535 (Frankfurter & Harlan, J.J., concurring).
181. Harrell Candy Kitchen, Inc. v. Sarasota Manatee Airport Authority, 111 So. 2d 439, 443 (Fla. 1959).

of a relation between the ordinance and the public health, safety, or welfare.[182] Despite this broad state authority to classify, however, a state regulation will be overturned if it is obviously arbitrary and discriminatory.[183]

Pursuant to the commerce clause, Congress could enact a uniform national building code if national uniformity proves necessary to prevent inconsistent local regulation from interfering with interstate commerce.[184] Under present preemption doctrine, however, this alone might not be sufficient to prevent totally state regulation in the area.[185] If federal uniform building codes were to have full preemptive effect, a firm expression of congressional purpose and explicit preemption of state regulation might be required.

At present the most important source of federal standards for both existing and proposed structures is the Department of Housing and Urban Development [HUD]. If liberally construed and administered, the mortgage refinancing authority of the 1974 Housing Act,[186] under a new section,[187] should be used to encourage building improvements conducive to energy conservation. Traditionally, building owners have obtained funds for deferred maintenance, repairs, and rehabilitation by refinancing residential properties every 10 years or so.[188] While institutional lenders no longer supply this financing very readily,[189] section 223(f) can offer owners an opportunity to accomplish repairs; its authority is not limited to older areas or to low or moderate income residents. Its broad language permits HUD for the first time to insure mortgages on existing housing where "substantial rehabilitation" will not be undertaken.[190] Participating owners will be required to make repairs and improvements to satisfy applicable local housing codes and

182. United Sanitation Services, Inc. v. City of Tampa, 302 So. 2d 435 (Fla. App. 1974).

183. McGowan v. Maryland, 366 U.S. 420 (1961).

184. Huron Portland Cement Co. v. City of Detroit, 362 U.S. 440 (1960).

185. *See generally* Florida Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132 (1963); Mariniello v. Shell Oil Co., 511 F.2d 853 (3d Cir. 1975); R.G. Indus. Inc. v. Askew, 276 So. 2d 1 (Fla. 1973).

> In recent times the Supreme Court has employed the supremacy clause sparingly to strike down state law. Even where extensive federal regulatory schemes have been enacted, if there is no express congressional language of preemption, states have been allowed to act in the interests of the federal regulatory network.

Mariniello v. Shell Oil Co., *supra* at 857.

186. Housing Act of 1974, Pub. L. No. 93-383, 88 Stat. 633 (codified in scattered sections of 12, 42 U.S.C.).

187. 12 U.S.C. § 1715z-1 (Supp. V, 1975), *amending* 12 U.S.C. § 1715z-1 (1970).

188. G. STERNLIEB, THE URBAN HOUSING DILEMMA: THE DYNAMICS OF NEW YORK CITY'S RENT CONTROLLED HOUSING 48, 581-648 (1970).

189. *Id.*

190. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, MORTGAGE INSURANCE FOR THE PURCHASE OR REFINANCING OF EXISTING MULTI-FAMILY HOUSING PROJECTS § 223(f) (1975).

the objectives of the HUD Minimum Property Standards.[191] Such standards could easily include energy conservation requirements.

The impact of existing federal programs is limited, however, by the ability of the states to establish more stringent building standards to be met before local occupancy permits are granted. States generally retain the power to adopt laws affecting the subject of a federal statute, so long as the federal purpose is not undermined.[192] Additionally, in view of the traditional role of the state police powers even a federal uniform building code could likely be viewed by the courts as an unwarranted intervention in local governmental activities. Thus, the federal role in influencing building construction for more efficient energy utilization will probably remain a limited one.

Transportation

Transportation is also a key energy policy area because of its relation to energy consumption. Transportation users depend heavily on petroleum products for their energy. Thus oil policy and foreign affairs are heavily interrelated with transportation programs, as are domestic oil production regulations. Environmental considerations also are interrelated with transportation energy consumption in such areas as vehicle emission standards and the Clean Air Act.[193]

Federal jurisdiction in transportation affairs is similar to federal authority in other energy-related areas. Transportation policy places particular emphasis on the commerce clause and the national power to "provide for the common defense" as the basis for jurisdiction.[194] The federal government exercises broad-ranging powers to insure that interstate commerce is not burdened. Vehicle standards, ratemaking authority, and the like are examples of federal action in pursuit of this power. Providing for the defense of the nation is a constitutional mandate for the federal government to participate in the design and development of transportation facilities. The interstate highway system is an example of a transportation facility built to assist in the national defense.[195] States also have considerable regulatory authority over transportation by virtue of the police power.

Private Transportation. The use of automobiles is regulated by government through taxes and licensing. There are taxes on the pur-

191. 24 C.F.R. § 200.925 (1976).
192. *See* Kewanne Oil Co. v. Becron Corp., 416 U.S. 470 (1974); Perez v. Campbell, 402 U.S. 637 (1971).
193. 42 U.S.C. §§ 1857-1857*l* (Supp. V, 1975).
194. 23 U.S.C. § 101(b) (1970).
195. *Id.*

chase of automobiles and on gasoline, the latter imposed by federal, state, and in some places local government. The gas tax is of particular importance because it is directly tied to automobile use. The consumption of gasoline is relatively inelastic,[196] therefore, present taxes, totalling about 11 cents per gallon, do little to discourage auto use. A large federal tax of perhaps 40 cents a gallon, however, might result in a substantial decrease in auto use, and hence a substantial energy savings.

Presently, the federal government perpetuates America's dependence on the automobile through the Highway Trust Fund.[197] The fund is financed through taxes, including 100 percent of the funds raised by federal taxes on gasoline, diesel fuel, tires, and vehicle parts.[198] In the past this fund has been earmarked exclusively for highway appropriations.[199] Even though the fund has now been opened to allow expenditures for mass transit,[200] the bias of the trust fund is clear: "it is unfair and unjust to tax motor-vehicle transportation unless the proceeds of such taxation are applied to the construction, improvement, or maintenance of highways."[201] The federal government is not alone in segregating tax monies raised by gasoline use for maintenance and construction of roads. For example, 6/7 of the gasoline taxes collected in Florida "shall be used for the construction and maintenance of state roads."[202] Thus, at the state level also, the perpetuation of the automobile is statutorily ordained.

A state can regulate goods under its police power without violating the commerce clause only where a mode of interstate commerce is not unduly burdened.[203] Thus, a state would probably be limited in its ability to regulate the sale of autos. Taxes on inefficient vehicles or on fuel-consuming accessories would probably be upheld, however. If the tax imposed correlates to the weight of the vehicles, the tax can be tied to additional maintenance required on roads due to their use by heavier vehicles.[204] However, title III of the Energy Policy and Conservation Act preempts any state efforts which would conflict with automobile fuel economy standards set by the federal government.[205]

196. New York Times, July 27, 1975, at 5F, col. 1.
197. 23 U.S.C. § 120 (1970).
198. *Id.* § 120(c)(1).
199. *Id.* § 120(f)(1).
200. *See* 23 U.S.C. § 142 (Supp. V, 1975) (providing that in order to encourage the development, improvement and use of public mass transportation systems, the secretary of transportation may approve as a project on any federal aid system, the construction of exclusive or preferential bus lanes, highway traffic control devices, bus passenger loading areas and facilities as well as transportation corridor parking facilities).
201. 23 U.S.C. § 126 (Supp. V, 1975).
202. FLA. STAT. § 206.46 (1971), *as amended*, FLA. STAT. § 206.46 (Supp. 1976).
203. Bibb v. Navajo Freight Lines, 359 U.S. 520 (1959).
204. Miami Transit Co. v. McLin, 101 Fla. 1233, 133 So. 99 (1931).
205. 15 U.S.C. § 2009 (Supp. V, 1975).

The obvious corollary to discouraging the sale and use of inefficient motor vehicles is to encourage the use of more efficient vehicles. Incentives could be established by exempting certain efficient accessories, such as radial tires, from the sales tax. Programs also might be implemented which discourage the use of all automobiles. For example, during the Arab oil embargo, there was a prohibition of Sunday gasoline sales.[206]

Another energy conservation measure that seems particularly susceptible to incentives is encouragement of carpooling. Eighty-two percent of working Americans commute to their jobs in automobiles,[207] many of them driving alone. Over 34 percent of all passenger-car travel in the United States involves commuting to and from work.[208] Incentives aimed at encouraging carpooling can be provided through preferential traffic lanes, parking facilities, and toll rates. Federal funding is available to the states for implementation of carpool incentives through the Emergency Highway Conservation Act[209] and the Energy Policy and Conservation Act.[210]

Mass transit systems provide another effective alternative for decreasing automobile use. The FEA has flatly declared, "public transit is two to four times more energy efficient than the auto."[211] Federal responsibilities concerning mass transit are mainly located in the Urban Mass Transportation Administration [UMTA] which is part of the Department of Transportation. Federal assistance for mass transit, is authorized in the Urban Mass Transportation Act of 1964, most recently amended in 1974.[212] Such assistance, available only to urban areas, is intended "for improving the efficiency of transit services."[213] Projects which may be authorized under this plan include both capital and operating expenditures.[214]

The states are the more logical level of government to handle mass transit utilization since transportational needs often are regional in

206. NEWSWEEK, Dec. 3, 1973, at 24.
207. CITIZEN'S ADVISORY COMM. ON ENVIRONMENTAL QUALITY, CITIZEN ACTION GUIDE TO ENERGY CONSERVATION 18 (1974).
208. FEDERAL ENERGY ADMINISTRATION, PROJECT INDEPENDENCE, Blueprint A-106 (1974).
209. 23 U.S.C. § 101 (Supp. V, 1975).
210. PUB. L. No. 94-163, 89 Stat. 868 (codified in scattered sections of 15, 42, 50 U.S.C. (Supp. V, 1975)).
211. FEDERAL ENERGY ADMINISTRATION, *supra* note 208, at 101. Such statements obscure the relevant issues of when, where, and how mass transit is to be more energy efficient.
212. 49 U.S.C. §§ 1601-1613 (1970), *as amended*, 49 U.S.C. §§ 1601-1613 (Supp. V, 1975).
213. *Id.* § 1601(b)(1).
214. *Id.* § 1602. Assistance for operating expenditures was enacted in 1974, and significantly enlarges federal assistance, which is not to exceed 80 percent of capital expenditures, or 50 percent of operating expenditures.

nature. No one municipality can cope with the problem, and usually local governments are given only very narrow powers by the state. States have been active in considering mass transit plans; a number of them have also developed carpooling plans, both for government and private employees. States are also asked to coordinate and present statewide plans to meet federal guidelines.

It is local officials, however, to whom citizens turn when their public transit is inefficient, or incapable of getting them to a desired location at a proper time. Local responses have included increased use of buses, carpool lanes, and dial-a-ride. The local role is largely one of planning and implementation. The funds appropriated under UMTA have provided an incentive for local areas to begin implementing such energy conservation measures.[215]

Commercial Transportation. Commercial transportation involves the movement of freight and people. The authority to regulate interstate commercial transportation lies with the federal government and is based upon the Constitution's commerce clause.[216] State action must not unduly restrict interstate commerce,[217] and regulation must be pursuant to a valid state interest.[218] States have a limited role in measures to conserve energy used in commercial transportation, though the possibility of an unconstitutional regulation of interstate commerce looms large over any such proposal. For example, a state might attempt to promote more efficient commercial transportation by levying taxes upon less efficient modes. If interstate transporters were involved, jurisdiction would be limited to the intrastate portion of the carrier's business. And even then, no action could be taken which would unduly burden interstate commerce.[219] Another argument which might be raised against regulations which vary from state to state is that commercial transportation is so interstate in nature that a uniform national system is the only feasible means of regulation.[220]

Federal regulation of interstate commerce is among the oldest and most well established regulatory powers. The Interstate Commerce Act, passed in 1887,[221] is the nation's oldest statute authorizing direct

215. A potential shortcoming of federal mass transit assistance is that one recipient is designated for each urban area. This becomes an issue when there is more than one city in an urban area. The minority city may not be adequately represented in the program developed by the recipient. Since the availability of mass transit facilities may be a key factor in the development of an area, equitable treatment throughout the area is called for.

216. U.S. CONST. art. I, § 8.

217. Southern Pac. Co. v. Arizona, 325 U.S. 761 (1945).

218. Huron Portland Cement Co. v. City of Detroit, 362 U.S. 440 (1960).

219. Bibb v. Navajo Freight Lines, 359 U.S. 520 (1959).

220. Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624 (1973).

221. 49 U.S.C. § 1 (1970).

federal regulation of industry.[222] Principal areas of commercial transportation regulation include air transport, domestic water transport, and surface transport, including rail carriers.

The necessity for energy conservation has altered regulation of commercial transport. In the past era of cheap and abundant fuel, neither the practices of industry itself nor the goals of government regulation stressed the conservation of energy. The purpose of federal regulation was to insure that "[a]ll charges made for any service rendered or to be rendered in the transportation of passengers or property . . . shall be just and reasonable."[223] Shifting freight movement to more energy-efficient modes is now an important objective,[224] as is generally decreasing the demand.

Decreasing demand for freight services cannot be as easily accomplished as decreasing demand for private transportation, however. There is less frivolous use of commercial transportation, and market forces encourage elimination of unnecessary costs. In addition, unlike private transportation, relatively little freight movement is done for pleasure. If an industry or company were impeded in its business by government regulations which prevented it from using freight transportation, a taking issue would be raised. While the use of property can be restricted by government without that action constituting a taking,[225] the prevention of interstate commerce by this type of regulation would probably not be upheld. There are also strong policy reasons for not discouraging the use of commercial transportation. The nation is attempting economic recovery, and freight transportation is basic to business advances. This is an important factor, even when weighed against the need to conserve fuel.

A more promising conservation area involves increasing the efficiency of the various transportation modes. At present, many governmental regulations promote energy-inefficient uses, a notable example being the federal requirement of gateways for interstate truck transport. This requires that common carriers transport goods only according to routes authorized by the ICC, thus frequently causing truckers to travel unnecessary miles.[226] The ICC is attempting to alleviate this situation

222. PERSPECTIVES ON FEDERAL TRANSPORTATION POLICY 5 (J. Miller ed. 1975).
223. 49 U.S.C. § 1(5) (1970).
224. *See* FEDERAL ENERGY ADMINISTRATION, *supra* note 208, at A-94.
225. Hamilton v. Kentucky Distilleries & Warehouse Co., 251 U.S. 146 (1919).
226. [A] motor common carrier authorized to transport the same commodity over irregular routes between Illinois and Pennsylvania points and also between Pittsburgh, Pa., and Washington, D.C., may transport that commodity from Chicago to Washington, in which event it must move via the Pittsburgh gateway.
INTERSTATE COMMERCE COMM'N, MOTOR COMMON CARRIERS OF PROPERTY, ROUTES AND SERVICE, EX PARTE NO. 55, at 532 (1975).

through the elimination of gateway requirements when a carrier, by using the most direct highway route, can save up to 20 percent of its authorized route mileage.[227] Interestingly, where a greater than 20 percent savings is involved, an appropriate application seeking direct-service authority would be required. Such government regulations requiring activities which inefficiently and unnecessarily use fuel are an anachronism. Regulations must be scrutinized to prevent government, in its regulatory capacity, from causing commercial transport to use methods which are circuitous, uneconomical, and inefficient.

Transportation issues are likely to see some dramatic and far-reaching changes in the near future. Alterations in the petroleum supply and cost situation have already had significant impact on transportation patterns. There are several significant factors which may affect future transportation programs. First, mass transit and rapid transit programs are being increasingly emphasized by the federal government. Environmental concerns, particularly standards imposed by the Clean Air Act,[228] will have to be considered in planning transportation programs for the future. Moreover, because governmental entities are presently short of funds, proposals which require intensive capital expenditures are unlikely to be approved in the future. Finally, without federal leadership, state and local transportation planning suffers from various uncertainties in trying to project future transportation programs.

THE FUTURE OF FEDERALISM IN THE ENERGY ISSUE

A few areas of energy regulation exist which by nature will fall within the exclusive domain of the federal government. Matters relating to foreign affairs are and will continue to be exclusively federal matters. Similarly, national security is an issue of federal concern. The propriety of the exercise of that power may be questioned, however, as to whether a matter claimed to be foreign affairs or national security is properly designated. In the past, for example, the definition of national security as it relates to energy justifed the construction of dams and the formation of the TVA.[229] In the future, it may be possible that valid national concerns, such as national defense or security, may be invoked to expand federal authority. In addition, as petroleum becomes scarcer and domestic resources decrease, the actual impact of petroleum policy on national defense will increase. For example, the authority

227. *Id.* at 537.
228. 42 U.S.C. §§ 1857-1857*l* (Supp. V, 1975).
229. Ashwander v. TVA, 297 U.S. 288 (1936).

to ration gasoline during World War II was premised on national security; extreme shortages could be utilized to justify such activities even in peace time if the shortages were great enough.

The interstate commerce power, as discussed previously,[230] is also a matter where preeminent federal power exists. Since the limits of this power are at best unclear, the limits of its exercise in the field of energy policy are less than predictable. For example, the federal government is utilizing the commerce power to claim exclusive authority over all automobile efficiency standards.[231] Title II of the Energy Policy and Conservation Act [EPCA] preempts state efforts which conflict with federal fuel standards.[232]

In addition to the federal government's exclusive authority, the states also retain exclusive authority over some issues. For example, the states have the power to make decisions regarding their own purchase of energy consuming items, that is, procurement. In fact, this authority is recognized specifically in the EPCA.[233] Other examples of traditional state authority include zoning, building codes, and utility regulation. To some extent, however, each of these areas is being increasingly affected by federal activity. For example, a federal land use bill which would substantially affect the states is a recurring subject of congressional activity. In addition, a nationwide building code has been proposed. The National Flood Insurance Act of 1968 affects local zoning control.[234] Bills have been introduced which would affect state utility regulations.[235] Each of these cases indicates a continuing possibility of conflict or cooperation between state and federal governments. Each initiative of state and federal government without conscious coordination increases the potential for conflict. To optimize the interaction of state and federal governments, some general principles as to their respective roles should be articulated.

The Federal Role

There are unquestionably distinctions between the motives and goals of the individual states and the concerns of those states collectively as a nation. The more parochial interests of the states may not encompass the long-term national perspective required in energy policy. Therefore, the primary role of national government should be to

230. *See* text & notes 31-42 *supra.*
231. Energy Policy and Conservation Act of 1975, Pub. L. No. 94-163, 89 Stat. 871 (codified in scattered sections of 15, 42 U.S.C.).
232. *Id.*
233. *Id.* at §§ 327, 509.
234. *See* 42 U.S.C. §§ 4001-4127 (1970).
235. H.R. 12461, 94th Cong., 2d Sess. (1976).

provide guidance for the citizenry and national welfare as a whole, rather than for geographical sections. This overall guidance should include sources of energy data and information which may be utilized nationwide to avoid unnecessary duplication in research and development in several states. Further, it is the responsibility of the federal government to provide the overall framework within which the states will make their own policy. Without this guidance, conflict would occur not only between the state and federal governments, but also among the states.

The federal government may become increasingly involved in diverse matters relating to energy policy. The degree to which it becomes involved in state-related areas would likely be a function of the degree to which the states have successfully and aggressively pursued their own policies. Currently, the federal government's principal statement of guidance for state governments is the EPCA. However, much legislation is pending in Congress which could affect state energy policy. Because the federal government possesses broad powers, there are very few areas in which there is no potential for federal action. As the energy issue becomes more crucial, it is likely that the federal government's activities will grow and expand into areas which have been more traditionally of state concern, such as utility rates and housing codes. However, if the states themselves act affirmatively to implement energy policies, the federal government may not be required to intervene as substantially as it might otherwise.

The State Role

It is crucial that the states recognize that it is in the best interest of their citizens to utilize the police power to establish energy conservation as a state policy. This realization can establish the foundation for utilization of the police power in many areas of concern. There is potential for the states to provide an innovative example for the federal government, and to implement programs which can provide models for other states. There are many areas of concern on the agenda for state action. One way to view the potential for state action is by phases of the energy production-consumption process.

Exploration and Production of Energy Phase. While obtaining energy resources is a matter of concern to both state and federal governments, the states retain a large measure of control through environmental regulations over exploration within their borders. The states, however, are not empowered to limit production to advance their own parochial interests if detrimental to the nation as a whole. The devel-

opment of resources of the coastal states also relates to exploration and production. Offshore production has been a major source of conflict between the states and the federal government. However, a major attempt at cooperation, the Coastal Zone Management Act,[236] is currently being implemented. While the Act is not aimed primarily at energy policy, it does provide a mechanism through the use of federal funds for state control of coastal zone development, including energy-related onshore activities.

Processing and Conversion Phase. Changing oil resources into energy is heavily affected by environmental concerns of both the state and federal government. Processing and conversion of both petroleum and nuclear fuels are heavily controlled and regulated. Within this issue the location and siting of nuclear power plants has been and will continue to be an area of conflict. It has been the subject of initiative in the West and litigation in the East. The ultimate extent of state authority to affect nuclear power has not yet been decided under the current statutory scheme.

Under the Clean Air Act, the states are allowed to require the burning of coal with less than one percent sulfur content, thus heavily influencing conversion of coal for electricity. As pressure increases to use coal, new federal standards may be promulgated with the intent to override state restrictions. A new and emerging area of concern is control of conversion of solar energy for electricity. The primary question is who will set standards of performance for solar devices. To this point, standard setting has occurred at the state rather than the federal level.[237] This could result in nonuniform standards among the states, which could cause problems for manufacturers and thus delay the implementation of solar energy technology.

Distribution and Transportation Phase. The federal government has heavily controlled nationwide allocation under the Emergency Petroleum Allocation Act.[238] It is likely that future shortages and allocation schemes will be heavily controlled by the federal government. Given that these controls are a result of shortages and the goal of states is to obtain as much fuel for their citizens' needs as they can, conflict seems inevitable in this area. Transport of energy falls largely within federal regulatory authority since energy transport involves interstate commerce. Whether by pipeline or by other means, the federal government, through the ICC and the FPC, controls the transportation of

236. 16 U.S.C. §§ 1451-1464 (Supp. V, 1975).
237. *See* Solar Energy Standards Act of 1976, ch. 76-246, §§ 1-5, 1976 Fla. Laws 613.
238. 15 U.S.C. §§ 751-760h (Supp. V, 1975).

energy. One of the major examples of recognition by the federal government of the states' role occurs in the area of energy transportation. The Deepwater Port Act of 1974 grants to the governors of coastal states the right to veto the siting of deepwater ports in adjacent states.[239] Under that Act, the federal government specifically accorded a role to the states in controlling transportation of petroleum through the use of deepwater ports.

Utilization and Consumption of Energy Phase. The area of use control is the focus of energy conservation. Since energy conservation is of increasing importance, it is likely that both the state and federal government will be more active. However, it is here that the state possesses the greatest intrinsic authority to implement energy policy. The following is a list of energy-related policies which states should consider in utilization of its police power to reduce the consumption of energy:

(1) Implementation of state zoning and land-use policies which encourage energy conservation. This strategy would specifically require states to consider energy matters in the location of developments, industries, and the like. In addition, zoning should be considered for protecting the use of solar devices and for improving industrial siting for optimal use of energy availability.

(2) Utilization of building and housing codes. The EPCA has required the states to implement an energy-conscious housing code in order to receive federal funding. Numerous schemes have been devised by the states to implement or to encourage energy conservation in buildings, from tax breaks to direct building code requirements.

(3) Promotion of alternative sources of energy. States have the capability to encourage the use of solar energy as well as the utilization of solid waste for production of electricity. In fact, many states have implemented such policies, and the broader their use of these alternative sources, the greater collective national benefit.

(4) Promotion of conservation in transportation. States have within their power the ability to improve mass transportation and encourage its use through wise land planning and through encouragement of carpooling, vanpooling, and special traffic lanes. This is another area in which the federal government has directly mandated some state action for the receipt of federal funds.

(5) Implementation of energy-conscious procurement. The authority to affect procurement is specifically recognized by the federal government, and certain states are implementing energy-wise policies.

239. Pub. L. No. 93-627, §§ 4(c)(9), 9(b)(1), 88 Stat. 2128 (codified at 33 U.S.C. §§ 1503(c)(9), 1508(b)(1) (Supp. V, 1975).

The ability of states to take the lead in consuming energy-efficient products can set both an example and encourage industry to produce such products.

(6) Restructuring of utility rates. Although states traditionally have regulated utility rate structures, the goal in the past has been to ensure a fair rate of return on utility investments rather than control the amount of energy consumed. The rate-setting agencies in many states have adopted or considered rate structures which would tend to encourage the conservation of energy.

Other Policy Considerations

There are many other issues related to energy policy which are just beginning to be raised. Increased efficiency in the utilization of resources, such as the use of waste heat, solid wastes, and returnable containers, provide examples of an issue where state-federal boundaries have yet to be drawn. In many of these areas states have taken tentative steps while awaiting some definitive policy from the federal level. For example, the impact of energy policy on disadvantaged groups, such as the aged and the poor, has largely been neglected at both the state and federal levels. Increased attention is being given to this topic in areas such as "lifeline" utility rates, weatherization of low income homes, and mass transportation for the elderly.

The energy issue raises many questions of federal-state roles. The resolution of these issues is likely to cause a major evolution, if not revolution, in the concept of federalism. Assessment of the continuing areas of conflict reveals that, at best, predictions as to future disposition of various issues is uncertain. Yet, the energy issue is not one in which policy can await future clarity. Therefore, state and federal governments should begin to act in the public interest and promote energy's effective use. State governments cannot afford to wait for the federal government to solve their problems. States must act in the interest of their citizenry to alleviate energy-related problems where jurisdictional authority permits. The federal government must recognize the potentially valuable role of the states in the development of energy policy and should encourage state action. This can be accomplished through a comprehensive federal plan which provides leadership and increased certainty, on which local decisionmakers can base their decisions. The federal government should finance innovative pilot projects so that their efficacy can be tested for state implementation. There are areas where the federal government is more capable of policy formulation than the state governments, but there are corresponding areas in which states

are better qualified to act. Resolution of areas of effective authority is essential for satisfactory solutions to existing energy problems.

CONCLUSION

The division of authority between state and federal governments has been a matter of continuing concern throughout the history of the country. Because of the complexity of the energy issue, it not only reaches many of the traditional areas of conflict between the state and federal governments, but also creates new ones. As each level of government begins to take more extensive action, the issue of the division of state and federal authority becomes more complex. Moreover, this complexity is intensified by the increasing diversity of energy resources and sophistication of delivery technology. In the near future it is anticipated that state and federal governments will extend their activity in the area of energy policy—the state governments through their police powers and the federal government through its constitutional authority. While it is possible that in some spheres each may operate independently, it is more likely that either cooperation must be generated or conflict will ensue.