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Nebraska's Legislative Responses to the Energy Crisis: Solar Energy, Gasohol, and the Conservation Ethic

I. INTRODUCTION

The seizure of American hostages in Iran, the Soviet invasion of Afghanistan, the political unrest in developing oil-rich nations, and the resulting domestic economic problems have cast serious doubt upon this nation's ability to be free from foreign manipulation. Perhaps the key to America's salvation rests with what has been popularly termed "energy independence." To safeguard this nation's economic, social, and political destiny, it is urgent that prudent governmental policies accelerate the exploration, development, and production of alternative energy sources.

In recognition of a new political era in which energy consciousness may soon dominate governmental policy decisions, this comment will explore possible state initiatives to encourage the development of alternative energy sources. In particular, it will focus on the Nebraska's legislative response to the "energy crisis," the substantive content of which has legal significance to both the practicing attorney and the consumer. In addition, the implications of legislative policy will also be discussed and an attempt will be made to analyze possible forthcoming legislation in order to identify key considerations which might affect the impact of this legislative response.

For the purpose of this comment, it appears to be irrelevant whether the "energy crisis" arose from actual shortages of fossil fuels in relation to actual world supplies, or from apparent shortages created by political and economic manipulation. In either case, the fact remains that there is a finite quantity of traditional fossil fuels available for present and future consumption. Therefore, comments concerning Nebraska's initiatives will be limited to examining the efforts to conserve existing fossil fuels and to the development of renewable energy sources.

II. PROMOTING THE DEVELOPMENT OF RENEWABLE ENERGY SOURCES

A. Solar Energy

Recently, solar energy has received considerable attention as a potential renewable energy source¹ which may relieve some of this Nation's dependence on foreign energy sources.² Nebraska has enacted several pieces of legislation aimed at encouraging the development of solar energy. This legislation has included acts for the protection of access to solar skyspace,³ the creation of loans for the installation of residential energy conservation devices,⁴ the for-

1. For a general discussion of solar energy potential, see Zillman & Deeny, *Legal Aspects of Solar Energy Development*, 1976 ARIZ. ST. L.J. 25, 26-32.

2. Congress has recognized solar energy as a viable power source. The Congressional declarations of findings and policies enacted as part of the Solar Energy Research, Development and Demonstration Act, 42 U.S.C. §§ 5551-5555 (1974), stated:

(a) The Congress hereby finds that—

(1) the needs of a viable society depend on an ample supply of energy;

(2) the current imbalance between domestic supply and demand for fuels and energy is likely to persist for some time;

(3) dependence on nonrenewable energy sources cannot be continued indefinitely, particularly at current rates of consumption;

(4) it is in the Nation's interest to expedite the long term development of renewable and nonpolluting energy resources, such as solar energy;

(5) the various solar technologies are today at widely differing stages of development, with some already near the state of commercial application and others still requiring basic research;

(6) the early development and export of viable equipment utilizing solar energy, consistent with the established preeminence of the United States in the field of high technology products, can make a valuable contribution to our balance of trade;

(7) the mass production and use of equipment utilizing solar energy will help to eliminate the dependence of the United States upon foreign energy sources and promote the national defense

3. NEB. REV. STAT. §§ 66-901 to -914 (Cum. Supp. 1980).

4. Act of April 23, 1980, L.B. 954, §§ 1-13, 1980 Neb. Law 1073 (codified at NEB. REV. STAT. §§ 76-1603, -1606, -1618, -1619, -1622, -1622.01 to .04, -1623, -1623.01, -1624, -1626 (Cum. Supp. 1980)). This legislative act is a broad comprehensive bill which covers several aspects of energy development. It includes legislation to stimulate private investment into residential conservation devices by providing for low interest loans to low and moderate income persons through a quasi-governmental corporation and publicly owned utilities. In addition, the State Energy Office was reorganized and given additional powers and duties. Minimum statewide thermal and lighting standards were developed. A sales tax refund was formulated to provide economic incentives for investment in solar energy systems. The governor was granted additional emergency powers to deal with vital resource emergencies. Finally, the legislature provided for a government procurement policy to take into consideration is-

mation of sales tax refunds as an incentive for alternative energy sources,⁵ and the submission of a state constitutional amendment to grant the legislature the authority to create property tax exemption for real property when improvements designed primarily for energy conservation are made.⁶ The technological state-of-the-art aspects of solar energy are not a significant barrier to these developments.⁷ However, institutional,⁸ governmental,⁹ and economic¹⁰ barriers do exist which hamper such development. As a result, state legislation aimed at promoting further solar energy development must address several legal problems.

1. Legislative Definition of Solar Energy

The definitional sections of solar energy legislation are of great importance to the subsequent application of such legislation.¹¹ Critical definitional problems are created when state legislation designed to encourage development of solar energy merely refers to "solar energy" generically¹² without further clarification. "Solar energy" includes many forms of energy which are typically consid-

sues of energy efficiency. Act of April 23, 1980, L.B. 954, §§ 1-66, 1980 Neb. Law 1073 (codified in scattered sections of NEB. REV. STAT. chs. 66, 70, 76, 81, 84 (Cum. Supp. 1980)).

5. NEB. REV. STAT. §§ 66-1012 to -1018 (Cum. Supp. 1980).
6. Act of April 25, 1980, L.B. 740, § 2, 1980 Neb. Laws 651 (amendment to NEB. CONST. art. VIII, § 2).
7. See Note, *Solar Energy: An Analysis of the Implementation of Solar Zoning*, 17 WASHBURN L.J. 146 (1977); Note, *Solar Energy Property Tax Legislation: An Analysis with Recommendations for Legislative Action*, 2 WHITTIER L. REV. 475 (1980).
8. See Schifflett & Zuckerman, *Solar Heating and Cooling: State and Municipal Legal Impediments and Incentives*, 18 NAT. RESOURCES J. 313, 325-26 (1978); White, *Solar Investment by a Municipal Utility*, 55 N.D. L. REV. 409, 410 (1979) (aesthetic-oriented zoning ordinances discourage solar development); Note, WASHBURN L.J., *supra* note 7, at 151 (design and aesthetics, in a general sense, are barriers).
9. Financial institutions are reluctant to invest capital in homes or commercial buildings in which solar devices are used. Because solar-equipped structures are relatively young, there is some skepticism as to its ability to realistically compete with traditional fossil fuels. Schifflett & Zuckerman, *supra* note 8, at 320-21.
10. For an analysis of economic barriers, see Ben-David, Schulze, Balcomb, Katson, Noel, Roach, & Thayer, *Near Term Prospects for Solar Energy: An Economic Analysis*, 17 NAT. RESOURCE J. 169 (1977) [hereinafter cited as Ben-David]; Minan & Lawrence, *State Tax Incentives to Promote the Use of Solar Energy*, 56 TEX. L. REV. 835, 835 n.2 (1978). See also Solomon & Belzer, *Looking Ahead: Capital Shortages, Tax Policy, and Economic Planning*, 51 NOTRE DAME LAW. 251 (1975).
11. For a general discussion of legislative definitional sections on solar energy, see Minan & Lawrence, *supra* note 10, at 838-40; Note, WHITTIER L. REV., *supra* note 7, at 480-87.
12. NEB. REV. STAT. 76-1606(11)(h) (Cum. Supp. 1980).

ered to be distinct energy sources.¹³ Failure to clarify questions of eligibility creates uncertainties for both potential consumers and administrative agencies.¹⁴ Furthermore, a likely consequence of definitional deficiencies is a reduction in the incentive value¹⁵ of the state legislation.

Legislative amendments to the Nebraska Mortgage Finance Fund suffer from definitional deficiencies by only referring to "solar energy" in its generic sense.¹⁶ For example, the definition of a "residential energy conservation device" refers to devices which utilize "solar energy" without defining this term.¹⁷ If confronted with a definitional issue, the courts might look to the definition of "solar energy" provided in legislation enacted to protect access to solar skyspace.¹⁸ Under this statute, "solar energy" is defined as "radiant energy, direct, diffuse, or reflected, received from the sun at wavelengths suitable for conversion into thermal, chemical, or electrical energy."¹⁹ However, this definition refers to legislation designed to protect access to solar skyspace which is not necessarily the same definition needed for legislation designed to promote energy conservation in residential housing.²⁰ Perhaps the best guideline to resolving this interpretation problem is to refer to the definition of "residential energy conservation device"²¹ which provides in pertinent part:

(11) Residential energy conservation device shall mean *any* prudent means of reducing the demands for conventional fuels or increasing the supply or efficiency of these fuels in residential housing and shall include but not be limited to:

....

13. Typically, solar energy is considered to include those forms of energy which are "renewable." Direct rays from the sun can be harnessed and transformed into thermal, chemical, electrical, and mechanical energy. In a technical sense most energy sources are derivatives of solar energy. For example, wind energy is produced by the sun heating air masses thus causing movement. The water flow into dams which produce hydroelectric power is part of a hydrologic cycle process which depends on the sun's heat evaporating water into the atmosphere to later be released as rain. The sun also generates various degrees of heat at various ocean depths resulting in ocean thermal gradients. Even the energy from vegetation, such as wood or agricultural waste is a form of solar energy. The logic of this latter argument, if taken to its extreme, could include fossil fuels in the definition of solar energy because they are merely centuries old deposits of vegetation. Note, WHITTIER L. REV., *supra* note 7, at 475 n.3.

14. Minan & Lawrence, *supra* note 10, at 840.

15. *Id.*

16. NEB. REV. STAT. § 76-1606(11)(h) (Cum. Supp. 1980).

17. *Id.*

18. *Id.* §§ 66-901 to -914.

19. *Id.* § 66-903.

20. *Id.* § 76-1603.01(5), (9).

21. *Id.* § 76-1606(11).

(h) Devices to utilize *solar energy*, biomass, or wind power for *any* residential energy purpose, including heating or water and space heating or cooling; and

(i) *Such other conservation devices, renewable energy technologies, and specific home improvements necessary to insure the effectiveness of the energy conservation measures as the Director of the State Energy Office by rule or regulation identifies.*²²

The benefits of such a broad definition is that the development of all forms of solar energy has received explicit legislative sanction.²³

Definitional sections which avoid excessive specificity and highly technical language will reduce the need for frequent revision as the industry develops.²⁴ In addition, difficulties and uncertainties in interpretation can be lessened by legislative statements of purpose which clearly identify the policy objectives.²⁵ The importance of carefully drafted definitional sections can not be overemphasized because "the types of systems included in the definitions will be the types that will receive the greatest governmental and near-term commercial support; they are the ones that the state sanctions."²⁶

2. Access to the Sun

The issue of access to sunlight is crucial to future development of solar energy.²⁷ Without guaranteed access to sunlight in the future, prudent investors will not make the initial investment in solar systems. The traditional legal doctrines most useful for assuring access to sunlight are express negative easements,²⁸ zoning ordinances,²⁹ and restrictive covenants.³⁰ Other possible methods of allocating solar rights include analogies to water law

22. *Id.* § 76-1606(11)(h), (i) (emphasis added). It is unclear whether this definition includes both active and passive solar systems in the legislative framework. Section 76-1606(11)(i) leaves the definitional problem to the state agency responsible for administering the act. To be prudent, the solar industry representatives should attend the public hearings in mass to assure the best possible formation of a definition.

23. Note, WHITTIER L. REV., *supra* note 7, at 482-83.

24. Minan & Lawrence, *supra* note 10, at 842.

25. *See id.*

26. Note, WHITTIER L. REV., *supra* note 7, at 480.

27. *See* Schiflett & Zuckerman, *supra* note 8, at 314-15.

28. Gergacy, *Solar Energy Law: Easements of Access to Sunlight*, 10 NEW MEX. L. REV. 121, 128-31 (1979-80).

29. Note, WASHBURN L.J., *supra* note 7, *passim*.

30. Zillman & Deenye, *supra* note 1, at 36-38.

rights,³¹ transferable development rights,³² nuisance law,³³ and the doctrine of ancient lights.³⁴

a. *Easements.* The Nebraska Unicameral has given its "stamp of approval" for the use of easements as a means of protecting access to sunlight.³⁵ Section 66-911 identifies the important considerations to be included in documents³⁶ providing for solar skyspace easements.³⁷ Statutes such as section 66-911, which fix the writing and recording requirements³⁸ for solar easements,³⁹ help to re-

31. Comment, *The Allocation of Sunlight: Solar Rights and the Appropriation Doctrine*, 47 COLO. L. REV. 420, 434-47 (1976). The right of access to sunlight can be analogized to water law rights. New Mexico has adopted legislation which grants solar rights. N.M. STAT. ANN. §§ 47-3-1 to -5 (1978). An analysis of the statute and its potential problems can be found in Note, *Access to Sunlight: New Mexico's Solar Rights Act*, 10 NEW MEX. L. REV. 169 (1979-80).

32. For a general discussion of transferable development rights as a zoning tool, see Carmichael, *Transferable Development Rights as a Basis for Land Use Control*, 2 FLA. ST. U.L. REV. 35 (1974).

33. Zillman & Deeny, *supra* note 1, at 39-40; Comment, *The Dawning of Solar Law*, 29 BAYLOR L. REV. 1013, 1020-21 (1977).

34. Although the common law doctrine of ancient lights has been repudiated in the United States, it could be reincarnated in statute form:

The Doctrine of Ancient Lights, which is still used in England to protect solar rights, states that a property owner is entitled to receive light which is necessary for the reasonable use and enjoyment of his own land, even though the light passes over his neighbor's land, so long as the use of the light had been uninterrupted for a prescribed period of time.

Comment, *supra* note 33, at 1014-15.

35. NEB. REV. STAT. §§ 66-901 to -914 (Cum. Supp. 1980).

36. *Id.* § 66-911.

37. A definition of solar skyspace easement is contained in NEB. REV. STAT. § 66-909 (Cum. Supp. 1980).

38. The Colorado version is the most popular form of this type of statute. Adams, *An Analysis of Solar Legislation—Taxes and Easements*, 14 LAND & WATER L. REV. 393, 415 (1979). The Colorado statute provides:

(1) Any instrument creating a solar easement shall include, but the contents shall not be limited to:

(a) description of the vertical and horizontal angles, expressed in degrees together with any pertinent hourly, diurnal, or seasonal variations thereof, and measured from the site of the solar energy device, within which the solar easement extends over the real property subject to the solar easement, or any other description which defines the three-dimensional space or the place and time of day in which an obstruction to direct sunlight is prohibited or limited;

(b) any terms or conditions or both under which the solar easement is granted or will be terminated;

(c) any provisions for compensation of the owner of the property benefiting from the solar easement in the event of interference with the enjoyment of the solar easement or compensation of the owner of the property subject to the solar easement for maintaining the solar easement;

(d) the restrictions placed upon vegetation, structures, and

move any possible judicial reluctance towards enforcing such easements.⁴⁰ In addition, they provide the practicing attorney with a format for drafting easements,⁴¹ which is particularly important because the conveyance terms control the extent of coverage⁴² and the likelihood of future enforcement.⁴³

The use of express negative easements is perhaps the most enduring control⁴⁴ which, as real property interests, theoretically can last indefinitely.⁴⁵ In addition, individual landowners can negotiate easements without governmental intervention,⁴⁶ thus allowing maximum flexibility to meet individual needs.⁴⁷ Finally, the use of easements can also be applied to old structures as well as to new developments.⁴⁸

However, the beneficial attributes of the easement approach also limit its utility. Because granting solar easement rights is conducted on an individual basis, development of the solar industry depends primarily on individual initiatives.⁴⁹ Owners of real estate may fear that burdening their land by granting solar easements might diminish their property values.⁵⁰ On the other hand, adjoining property owners who had no intention of obstructing ac-

other objects which would impair or obstruct the passage of sunlight through the easement.

COLO. REV. STAT. § 38-32.5-102 (Supp. 1976). The Nebraska statute is essentially a replica of the Colorado statute. See NEB. REV. STAT. § 66-911 (Cum. Supp. 1980). The Nebraska statutory scheme also describes how solar sky-space easements are executed. *Id.* § 66-910.

39. Enforcement of solar skyspace easements is provided by NEB. REV. STAT. § 66-912 (Cum. Supp. 1980).

40. The courts have uniformly refused to enforce prescriptive easements as a mechanism to guarantee solar rights. Gergacy, *supra* note 28, at 167. In addition, the courts are divided on the use of implied easements to obtain similar results. *Id.* Therefore, reliance must be placed on express easements which is difficult unless clearly written. Myers, *Solar Access Rights in Residential Development*, 24 PRAC. LAW. 13, 15 (March 1978).

41. Numerous practical considerations must be included in the drafting of legal documents in order to effectively protect access to the sun. See Myers, *supra* note 40, at 16-20.

42. *See id.*

43. Statutory language assuring that solar easements are not unenforceable due to a "lack of privity of estate or privity of contract," NEB. REV. STAT. § 66-910 (Cum. Supp. 1980), creates certainty in enforcing future rights for the life of the easement. Cf. Adams, *supra* note 38, at 416 (the context of analysis focused on MINN. STAT. ANN. § 500.30(2) (West Supp. 1978) which had identical language).

44. *See Myers, supra* note 40, at 14.

45. *Id.* at 16.

46. Comment, *supra* note 33, at 1016-17.

47. *Id.* at 1017.

48. *Id.*

49. *Id.*

50. *Id.*

cess to sunlight would receive a monetary windfall.⁵¹ This suggests that the most significant barrier to the expanded use of solar easements is the expense of acquiring solar access rights.⁵² Such additional costs, beyond the initial investment, may inhibit the development of solar energy.⁵³

b. *Zoning*. In addition to sanctioning the use of sunlight easements, the Nebraska legislature has provided authority to all counties and municipalities having zoning or subdivision jurisdiction to include solar access considerations in all applicable zoning regulations or ordinances.⁵⁴ Local governments which provide solar zoning plans should recognize the following kinds of protection:

- (1) Directional orientation of street to take advantage of sunlight;
- (2) Directional orientation of slanted roofs to provide workable surfaces for solar collector retrofit;
- (3) Requirements for setting structures back from property lines to limit shadows on neighboring property; and
- (4) Control of building heights and density to minimize interference with neighborhood access to light.⁵⁵

In addition, a comprehensive zoning plan should consider the effects of vegetation (particularly trees) which perhaps are the greatest obstruction to sunlight.⁵⁶

States have relied upon the police power⁵⁷ as the basis of authority to use zoning regulations or ordinances to protect access to sunlight. However, if police powers are used in this fashion, care must be taken in drafting⁵⁸ these regulations and ordinances in order to avoid constitutional ramifications.⁵⁹

One of the disadvantages associated with zoning is a lack of

51. *Id.*

52. Gergacy, *supra* note 28, at 134-35. In order to assure adequate solar access, it is possible that grants of easements from several landowners will be necessary. Some of these landowners might not necessarily own property adjacent to the property for which an easement is sought. Comment, *supra* note 33, at 1017. Furthermore, the enforcement might necessitate prolonged and expensive litigation. The ultimate result is that the additional costs to acquire easement rights might negate the savings arising from investment in solar energy systems. *Id.* Therefore, any legislation designed to create economic incentives for the acquisition of solar energy devices should not ignore the costs associated with obtaining solar easement rights.

53. Gergacy, *supra* note 28, at 135.

54. NEB. REV. STAT. § 66-913 (Cum. Supp. 1980).

55. Schifflett & Zuckerman, *supra* note 8, at 317.

56. See Myers, *supra* note 40, at 16. It should be noted that NEB. REV. STAT. § 66-913 (Cum. Supp. 1980) specifically provides for consideration of "height and location of vegetation."

57. Note, WASHBURN L.J., *supra* note 7, at 152.

58. See Eisenstadt & Utton, *Solar Rights and Their Effect on Solar Heating and Cooling*, 16 NAT. RESOURCE J. 363, 379-80 (1976).

59. For an analysis of constitutional challenges to zoning ordinances designed to foster solar development, see Note, WASHBURN L.J., *supra* note 7, at 153-161.

continuity over time. Zoning ordinances are typically subject to change by legislative amendments or exemptions created by granting variances.⁶⁰ The lack of continuity is also apparent in substantive policy considerations.⁶¹ For example, pre-existing policy considerations, such as aesthetic appearance, restrictions on size and type of structure, and nonconforming land uses, all contribute to the difficulty of implementing a zoning scheme. Furthermore, the cost of the initial research, the development of an overlay map, and the administration of such a scheme may tax the financial and personnel resources of local government.⁶²

Despite the disadvantages associated with zoning, it is the "most frequently suggested approach for regulating solar rights."⁶³ Its chief advantage is that it can be applied to both new and old neighborhoods.⁶⁴ In addition, zoning ordinances are advantageous over easements in that they include large tracts of land rather than single isolated pockets of protection for solar access.⁶⁵ Comprehensive land management also has the effect of placing the cost of acquiring easements on the public rather than on the individual. Finally, the development of solar energy under the coming approach would be part of a comprehensive plan and would not be placed at the whim of individual inertia.

c. *Restrictive covenants.* Section 66-911 is sufficiently broad⁶⁶ to give legislative authority for utilizing restrictive covenants to enforce solar skyspace. A restrictive covenant is merely a legally enforceable promise, usually embodied in a deed,⁶⁷ which imposes restrictions on the use of land. As a device to guarantee solar access, restrictive covenants have the greatest degree of utility in

60. Myers, *supra* note 40, at 16. A more convenient system for granting variances from existing zoning ordinances is needed. Comment, *supra* note 33, at 1019. One alternative would grant solar rights coupled with a requirement that owners of structures which block sunlight must purchase easements from those owners whose solar collectors are affected by such blockage. *Id.* at 1017. This approach could be linked with a zoning ordinance and with the doctrine of transferable development rights which separates the actual ownership of the land from the right to develop the same. *Id.* at 1019-20. If such an approach is used, some government regulation of the market probably will be required to assure that sales of development rights are fair and equitable. *Id.* at 1020.

61. See Note, WASHBURN L.J., *supra* note 7, at 162.

62. *Id.* See Comment, *supra* note 33, at 1019.

63. Comment, *supra* note 33, at 1018.

64. *Id.* at 1019.

65. Myers, *supra* note 40, at 18.

66. NEB. REV. STAT. § 66-911 (Cum. Supp. 1980), provides, in pertinent part: "Any deed, will, or other instrument that creates a solar skyspace easement may include"

67. Comment, *supra* note 33, at 1017.

new housing development areas. A general scheme can be developed for the entire subdivision, thus eliminating the necessity and the cost of individual negotiations.⁶⁸ Enforcement of the covenants can be initiated by the current owner of the subdivision or the individuals who were specifically granted the benefit of the covenant.⁶⁹ In addition, enforcement is facilitated by having a single document of restrictions recorded with the plat plan.

The disadvantages⁷⁰ associated with restrictive covenants relate to the inability to be adapted to established neighborhoods. Here again, there would be a need for individual negotiation. It is also likely that existing restrictive covenants might have built-in obstacles to solar system adaptation which would need to be modified. Consequently, the acquisition of access rights could be very expensive. Finally, even if restrictive covenants are acquired, the results would not necessarily assure a comprehensive and consistent plan.

3. *Renewable Energy Sources: Tax and Loan Incentive*

The development and installation of solar energy systems is a capital intensive industry.⁷¹ Therefore, the problem of financing the marketing of technological improvements may be an important obstacle to the development of solar energy.⁷² "Financial incentives can be devised to reduce consumer resistance, expand capital available for manufacturing, and reduce risks to financial institutions."⁷³ Traditional financial incentives include low interest loans,⁷⁴ guaranteed loans,⁷⁵ direct governmental financing,⁷⁶ exemptions from sales and use taxes,⁷⁷ property tax exemptions,⁷⁸ income tax deductions or credits,⁷⁹ and depreciation rates.⁸⁰ The

68. *Id.* at 1017-18.

69. Myers, *supra* note 40, at 15.

70. See Comment, *supra* note 33, at 1018.

71. Landis, *The Impact of the Income Tax Laws on the Energy Crisis: Oil and Congress Don't Mix*, 64 CALIF. L. REV. 1040, 1074 (1976).

72. Schiffett & Zuckerman, *supra* note 8, at 320.

73. *Id.* at 321.

74. *Id.* For a general economic analysis of the near term prospects and feasibility of solar energy sources, see Ben-David, *supra* note 10, which concludes that interest rates and price control devices will be critical factors in the development of solar energy. In addition, the use of low interest loans and federal loan guarantees could help reduce the financial risks. *Id.* at 204-06.

75. Ben-David, *supra* note 10, at 204-06; Solomon & Riesmeyer, *The Development of Alternative Energy Sources: A Legal and Policy Analysis*, 30 OKLA. L. REV. 319, 341-44 (1977).

76. Solomon & Riesmeyer, *supra* note 75, at 339-45.

77. Adams, *supra* note 38, at 402-03.

78. Note, WHITTIER L. REV., *supra* note 7.

79. Minan & Lawrence, *supra* note 10, at 843-52.

80. Comment, *supra* note 33, at 1026.

range of possible incentive mechanisms which a state may ultimately select depends upon the individual state's needs, resources, and policy choices.

Nebraska has enacted legislation which encourages the development of renewable energy resources. This legislation employs property tax exemptions,⁸¹ sales tax refunds,⁸² low interest loans,⁸³ and direct grants for research.⁸⁴ In addition, municipalities and counties have been authorized to build, develop, maintain, lease, and operate alcohol plants or facilities.⁸⁵ Although income tax incentives are not presently used in Nebraska, such incentives are currently in the political winds.⁸⁶

a. *Sales tax exemptions.* Sales taxes are probably not a major impediment to solar energy development.⁸⁷ They are a one-time levy on the original purchase and are generally less than five percent of the cost of solar equipment.⁸⁸ At best, the sales tax exemptions create psychological incentives to manufacturers and potential users.⁸⁹ However, their utility should not be disregarded for such exemptions do reduce the initial investment outlay which is a major impediment to the conversion to solar energy. The use of sales tax exemptions can be of greater significance if used in conjunction with other tax incentives. However, if more than one tax incentive is used, legislatures should provide consistent defini-

81. Act of April 25, 1980, L.B. 740, § 2, 1980 Neb. Laws 651 (amending NEB. CONST. art. VIII, § 2).

82. NEB. REV. STAT. §§ 66-1012 to -1018 (Cum. Supp. 1980).

83. Act of April 23, 1980, L.B. 954, §§ 1-13, 1980 Neb. Laws 1073 (codified at NEB. REV. STAT. §§ 76-1603, -1606, -1618, -1619, -1622, -1622.01 to .04, -1623, -1623.01, -1624, -1626 (Cum. Supp. 1980)).

84. Act of April 21, 1978, L.B. 424, §§ 9-11, 1978 Neb. Laws 264. This Act provides the University of Nebraska with an appropriation of fifty thousand dollars a year for four years for research on biomass. These funds should be concentrated on the development of economically feasible uses for agricultural by-products.

85. NEB. REV. STAT. § 66-825 (Cum. Supp. 1980). The alcohol plants and facilities are part of Nebraska's attempt to develop gasohol as a renewable energy source, and at the same time, to conserve existing fossil fuels. *Id.* §§ 66-801 to -841. See generally notes 189-236 & accompanying text *infra*.

86. Dan Meyer, legislative assistant to Senator John Decamp of the Nebraska Unicameral, stated during an interview on August 22, 1980, that legislation is presently under consideration in the Nebraska Legislature to provide a state income tax credit which would "piggy-back" existing federal legislation. Interview with Don Meyer, legislative assistant to Senator John DeCamp, of the Nebraska Unicameral, August 22, 1980. [hereinafter cited as Meyer Interview I].

87. Adams, *supra* note 38, at 402; Comment, *supra* note 33, at 1024-25.

88. Adams, *supra* note 38, at 402; Schiffett & Zuckerman, *supra* note 8, at 322.

89. Comment, *supra* note 33, at 1025.

tional sections,⁹⁰ to assist prospective investors in understanding the available tax incentives.⁹¹

A unique problem associated with the sales tax exemption is whether materials purchased are actually being used for solar energy purposes.⁹² One solution to the potential abuse is the use of sales tax refunds.⁹³ Nebraska has chosen this approach.⁹⁴ The sales tax refund is contingent upon submission of application to the Tax Commissioner⁹⁵ and approval of the facility by the State Energy Office.⁹⁶ Such approval is conditioned on a finding by the State Energy Office that the "facility is designed primarily for the utilization of energy from alternative energy sources . . . and will reduce the consumption of energy from other than alternative energy sources"⁹⁷ Finally, the application cannot be made until the facility is completed.⁹⁸ This procedure illustrates a significant

90. See Adams, *supra* note 38, at 402-03. See also notes 11-26 & accompanying text *supra*. Nebraska cannot receive high marks for its consistency in drafting complementary solar energy definitions. For example, it is unclear whether the term "passive solar system" as used for granting a sales tax refund, NEB. REV. STAT. § 66-1013(5) (Cum. Supp. 1980), is more or less inclusive than the definition of "passive solar energy system" used in providing for solar access, *id.* at § 66-906. In § 66-906, the definition appears to be limited to "space or structural components that are specifically designed to retain heat . . ." while § 66-1013(5) also includes use for cooling. On the other hand, § 66-1013(5) does not include reference to mechanical moving devices as provided for in § 66-906. Compare *id.* § 66-906 with *id.* § 66-1013(5). The definition of "active solar system," used to provide for a sales tax refund, *id.* § 66-1013(1), is considerably more restrictive than parallel definitions contained in the sections concerned with solar access, *id.* §§ 66-903 to -905. Section 66-1013(1) refers only to "solar heating, cooling, or heating and cooling," *id.* § 66-1013(1) whereas § 66-903 includes solar energy derived "from the sun at wavelengths suitable for conversion into thermal, chemical, or electrical energy," *id.* at 66-903. An additional complexity is created by § 76-1606(11)(h) which merely mentions solar energy generically in terms of eligibility for low interest loans. See *id.* § 76-1606(11)(h). Thus, it is unclear whether this term includes both active solar systems and passive solar systems. One possible explanation for these differences is a deliberate legislative attempt to provide different incentives for specific targeted portions of the solar industry. However, such a conclusion is not apparent from statements of legislative findings and purposes. See *id.* §§ 66-901, -1012(1), 76-1603.01.

91. Adams, *supra* note 38, at 402-03. See generally note 90 *supra*.

92. Comment, *supra* note 33, at 1025.

93. *Id.*

94. Act of April 23, 1980, L.B. 954, §§ 25-31, 1980 Neb. Laws 1073 (codified at NEB. REV. STAT. §§ 66-1012 to -1018 (Cum. Supp. 1980)).

95. NEB. REV. STAT. § 66-1014(1) (Cum. Supp. 1980).

96. "Before applying for a refund of Nebraska sales and use taxes paid, the applicant shall request approval of the facility by the State Energy Office." *Id.* § 66-1016.

97. *Id.* See *id.* § 66-1013(3) (definition of utilization of energy); *id.* § 66-1013(2) (definition of alternate energy source).

98. *Id.* § 66-1014.

limitation on the use of a sales tax refund—administrative complexity.⁹⁹

b. *Property tax exemption.* Nebraska's Constitution limits the legislature's power to exempt real property from taxation.¹⁰⁰ Prior to 1980, this restriction hampered efforts to provide property tax incentives for solar energy. A proposed constitutional amendment¹⁰¹ that would have authorized solar exemptions was defeated in the November 7, 1978 general election,¹⁰² but a second constitutional amendment¹⁰³ was approved by the electorate on November 4, 1980. It provides, in pertinent part, that "[t]he Legislature by general law and upon any terms, conditions, and restrictions it prescribes, may provide that the increased value of real property resulting from improvements designed primarily for energy conservation may be exempt from taxation."¹⁰⁴

In light of this constitutional amendment, the following suggestions for legislative action should be considered¹⁰⁵ in order to accelerate the utilization of solar and renewable energy sources. First, definitional sections¹⁰⁶ are critical because they determine what technologies are to be encouraged and also create barriers for the development of technologies which have failed to acquire state

99. Adams, *supra* note 38, at 403.

100. NEB. CONST. art. VIII, § 2. As of January 1, 1980, thirty-one states have enacted legislation which authorizes the use of property tax incentives. For a general survey of the various legislative approaches, see Note, WHITTIER L. REV., *supra* note 7, at 475.

101. Act of April 17, 1978, L.B. 323, §§ 1-3, 1978 Neb. Law 177. The amendment, in part, provided:

The Legislature by general law may provide that the increased value of land or improvements to real property . . . *by reason of the installation of direct alternative energy systems, direct wind-generated energy systems, solid waste conversion systems, and water powered systems designed primarily for and utilized on either residential, commercial, or industrial buildings by the collection, conversion, transfer and use of alternate energy for providing heat, refrigeration, or electricity shall not be taken into account in the assessment of such land.*

Id. § 1 (emphasis in original).

102. Note, WHITTIER L. REV., *supra* note 7, at 479, 493 n.95.

103. Act of April 25, 1980, L.B. 740, § 2, 1980 Neb. Laws 651 (amending NEB. CONST. art. VIII, § 2).

104. NEB. CONST. art. VIII, § 2. This second proposal is drafted in a broad fashion and grants general powers to the legislature. The advantage of this proposal is that innovation is encouraged. The earlier constitutional amendment which was rejected by the electorate specifically enumerated energy sources which would receive special tax benefits. *See* note 101 *supra*. As a consequence, those energy sources yet to be discovered would require a new constitutional amendment before they could receive a special tax status.

105. Note, WHITTIER L. REV., *supra* note 7, at 497-500.

106. *See* notes 11-26 & 90 & accompanying text *supra*.

approval. Therefore, the scope of legislative definitions should be broad¹⁰⁷ and should include all renewable energy sources. The definitional problem can be dealt with affirmatively by listing all primary sources without reference to function.¹⁰⁸ Alternatively, "energy sources" can be defined by negative implication, including all energy sources other than the traditional fossil fuels.¹⁰⁹

Second, it is necessary to create an appropriate formula for determining the extent of the exemption status and its economic effect.¹¹⁰ The most popular approach is to exempt the solar energy system from real property taxation by defining the exemption in terms of its appraised value or actual cost.¹¹¹ Variations on this method include established ceilings,¹¹² a percentage of actual cost,¹¹³ or a predetermined fixed sum.¹¹⁴ These methods are designed to maintain existing tax liability.¹¹⁵ The property owner benefits by prevention of increased liability which may result from an increase in property value.¹¹⁶ Here lies both the popularity and weakness of the exemption system as a state incentive.¹¹⁷ The popularity of this form of tax incentive is due to its minor effect on current state revenues.¹¹⁸ Its effectiveness, however, is limited by its inability to relieve the impact of high initial costs of solar energy systems¹¹⁹—a primary barrier to development. In addition, governmental subsidizing of existing solar energy installations is an incidental result of a general property tax exemption status. Those property owners which have already installed solar energy systems did so on their own initiative.¹²⁰ If the sole objective of the legislation was to encourage new development, the creation of tax exempt status for existing solar energy systems would appear unjustified. However, there would be inherent inequities if prior purchasers were excluded.

Potential property tax incentives are not limited to creating exemptions. An innovative approach could provide incentives by en-

107. Note, WHITTIER L. REV., *supra* note 7, at 478.

108. *Id.*

109. *Id.*

110. *Id.* at 480.

111. Minan & Lawrence, *supra* note 10, at 854.

112. *Id.*; Note, WHITTIER L. REV., *supra* note 7, at 488.

113. Minan & Lawrence, *supra* note 10, at 854.

114. *Id.* at 855.

115. Note, WHITTIER L. REV., *supra* note 7, at 488.

116. *Id.*

117. Minan & Lawrence, *supra* note 10, at 852.

118. *Id.*

119. *Id.*

120. *Id.* at 856.

acting property tax credits.¹²¹ The property owner under such a scheme would receive a credit directly against his tax liability.¹²² Under a tax credit formula, the property owner stands to gain greater benefits than he would under an exemption system. On the other hand, exemptions merely reduce the assessed value of the property and the resulting tax benefit may be insignificant.¹²³

The need for government administration is inherent in any tax incentive program. Administrative mechanisms must be established in order to determine if a property owner is eligible to receive the tax benefit. It would also be prudent to establish a corollary mechanism to determine when this status is lost. Administrative procedures designed to assist in these functions could include certification of systems installed,¹²⁴ application for exemptions,¹²⁵ and initial and periodical field inspections.¹²⁶ Certification establishes some minimum requirement of system utility. The burden of obtaining certification can be placed either on the consumer¹²⁷ by requiring him to seek approval from the appropriate administrative agency, or on the manufacturer or installer¹²⁸ by implementing minimum efficiency standards. Because of its procedural simplicity, the latter alternative is perhaps the more desirable.¹²⁹ The requirement of some type of application procedure is justified by the need to place the incentive for acquiring the tax benefit on the energy user. Another reason for the use of an application procedure is to provide an automatic record keeping system which could accumulate the statistical information necessary to monitor the effectiveness of the tax incentive.¹³⁰ Field inspections provide one means of assuring that systems remain operable and thus deserving of the exemption status. However, annual exemption applications could serve the same function. Implicit in all these provisions is a genuine governmental concern for

121. MD. TAX. & REV. CODE ANN. art. 81, § 12F-5 (Cum. Supp. 1977); Minan & Lawrence, *supra* note 10, at 853 n.72.

122. Minan & Lawrence, *supra* note 10, at 853-54.

123. *Id.*

124. Note, WHITTIER L. REV., *supra* note 7, at 491.

125. *Id.* at 490.

126. *Id.* at 493.

127. Nebraska has placed certification requirements on the consumer who applies for a refund of Nebraska sales and use taxes paid for the purchase of alternative energy source facilities. NEB. REV. STAT. § 66-1016 (Cum. Supp. 1980). Similar provisions ought to be drafted for property tax exemption certification requirements in order to provide uniformity in administering various tax incentives designed to achieve the same objectives.

128. Note, WHITTIER L. REV., *supra* note 7, at 491.

129. *Id.* at 498.

130. *Id.* at 490-491.

preventing tax fraud.¹³¹

Finally, expiration dates also must be carefully considered in order to match the need for economic tax incentives against the lead-time required for developing a cost-effective industry.¹³² Expiration dates can be drafted to either restrict the period of exempt status to a specified number of years, or limit the property owner's ability to apply for exemption status after a certain date. Those individuals who convert to solar energy earlier receive tax benefits for a longer period of time. This is justified on a theory that "late comers" receive economic benefits from cheaper and more efficient systems which replace the lost tax benefits. Ideally, the gap between the costs of conventional systems and solar systems will be bridged either by lower costs for solar systems through expanded production, or by an increase in the cost of conventional systems due to rising fuel prices. Once solar energy systems become cost-effective and cost-competitive, there is no longer a need to continue governmental incentives because the marketplace itself will provide adequate economic incentives.

c. *Income tax.* Legislatively created income tax incentives¹³³ are perhaps the most viable means to encourage solar energy development.¹³⁴ Incentives focused primarily on residential consumers can be achieved through the individual income tax system.¹³⁵ Meanwhile, the corporate income tax structure presents numerous mechanisms to encourage commercial use and development.¹³⁶ As in other state tax incentives systems, the legislature should include definitional sections,¹³⁷ provisions for the scope of the tax benefit,¹³⁸ the creation of necessary administrative procedures,¹³⁹

131. *Id.* at 493.

132. *Id.* at 499, 477 n.12.

133. Although the state of Nebraska has not yet enacted income tax incentives for solar energy, a brief comment on its utility would be beneficial in providing an overview of available tax incentives. See Meyer Interview I, *supra* note 86.

134. See Adams, *supra* note 38, at 403; Minan & Lawrence, *supra* note 10, at 843. See also Landis, *supra* note 71, *passim*, which describes the impact that income tax incentives has had on the national development of natural resources. The author concludes that tax incentives are a "realistic method of providing financial aid and economic stimulus to the energy industry." Landis, *supra* note 71, at 1084. Ultimately, carefully chosen tax incentives can accelerate the development of new forms of energy which can eventually become substitutes to fossil fuels. *Id.*

135. Adams, *supra* note 38, at 403-13.

136. *Id.* at 413-14; Schiffett & Zuckerman, *supra* note 8, at 323-24.

137. See notes 11-26, 90 & 106-09 & accompanying text *supra*.

138. Minan & Lawrence, *supra* note 10, at 844-49; Adams, *supra* note 38, at 404-14.

139. Minan & Lawrence, *supra* note 10, at 846-47. See notes 124-31 & accompanying text *supra*.

and expiration dates.¹⁴⁰

Unique¹⁴¹ to the use of income tax incentives is the legislative choice between tax deductions and tax credits.¹⁴² The latter provides greater benefits¹⁴³ in a more equitable fashion¹⁴⁴ because tax credits reduce tax liability in direct proportion to investment costs.¹⁴⁵ As a consequence, taxpayers who make identical investments receive the same amount of savings.¹⁴⁶ Tax deductions, on the other hand, are less effective because less tax relief is granted per dollar of investment.¹⁴⁷ The amount received as a tax benefit under a tax deduction system varies according to the tax bracket of the solar system purchaser.¹⁴⁸ Because the benefits received become proportionally higher as the potential purchaser's income tax status climbs, the use of deductions brings disproportional savings to persons in higher income brackets.¹⁴⁹ The selection of an appropriate tax incentive system depends upon the eccentricities of the state taxation system and the state's willingness to sacrifice revenues to achieve long-run benefits from the widespread use of solar energy.¹⁵⁰

Carry-over provisions also have unique application to income tax incentives. Carry-over provisions allow the taxpayer to carry forward the amount of credit which exceeds the current year's tax liabilities¹⁵¹ to be applied against tax liability in subsequent years until the credit has been exhausted.¹⁵² Legislation should be drafted in such a manner that restrictive carry-over provisions are not deceptive as to the actual benefits of credit percentages.¹⁵³ If overly restrictive carry-over provisions are imposed, the effectiveness of the tax incentive will be decreased.¹⁵⁴

Corporate income tax incentives for manufacturers of solar energy systems can include investment tax credits,¹⁵⁵ credits for re-

140. Adams, *supra* note 38, at 401. See notes 132-35 & accompanying text *supra*.

141. *But see* notes 121-22 & accompanying text *supra*.

142. Adams, *supra* note 38, at 403; Minan & Lawrence, *supra* note 10, at 843.

143. Adams, *supra* note 38, at 403.

144. Minan & Lawrence, *supra* note 10, at 843.

145. *Id.*

146. *Id.*

147. *Id.* at 849.

148. *Id.*

149. *Id.*

150. *See id.* at 843; Adams, *supra* note 38, at 405.

151. Adams, *supra* note 10, at 408.

152. Minan & Lawrence, *supra* note 10, at 846.

153. Adams, *supra* note 38, at 406. A credit percentage is a mechanism to limit the tax incentive which is based on specified percentage of the actual cost. Another way to accomplish the same result is to place a dollar maximum on the credit allowed. Minan & Lawrence, *supra* note 10, at 844.

154. Adams, *supra* note 38, at 405-06.

155. Schiflett & Zuckerman, *supra* note 8, at 323.

search,¹⁵⁶ accelerated depreciation,¹⁵⁷ and other types of preferential treatment.¹⁵⁸ Commercial enterprises are often more receptive to tax incentives than residential energy users¹⁵⁹ because of the increased availability of flexible capital structures,¹⁶⁰ and the corporations' familiarity with the economic benefits of tax incentives. One objective in giving the tax incentives to business is to shorten the pay back period on corporate investments,¹⁶¹ thus lowering the cost to the manufacturer of solar equipment. As a result, a reduction in the price ultimately charged to the consumer can be made possible.¹⁶² However, this approach has been criticized as being less effective than giving tax incentives directly to consumers¹⁶³ because credits which go directly to the consumer have greater visibility and psychological impact.¹⁶⁴

d. *Governmental loans.* One should not be lulled into an uncritical acceptance of the widespread adaptability of tax incentives as the exclusive means to stimulate solar energy development. An analysis of the implicit assumptions underlining income tax incentives will illustrate this point. One assumption is that prospective beneficiaries will have to be taxpayers.¹⁶⁵ Such a requirement has the possibility of excluding ten percent of American homeowners.¹⁶⁶ Even if potential residential purchasers have sufficient tax liability to receive the intended tax benefits, it is unlikely that low income families would divert funds from consumption to investments.¹⁶⁷ Many simply lack available capital to purchase such devices.¹⁶⁸ Often, loans are only obtainable at prohibitively high interest rates.¹⁶⁹

156. *Id.*

157. Comment, *supra* note 33, at 1026; Adams, *supra* note 38, at 403-04.

158. Adams, *supra* note 38, at 413-14.

159. Minan & Lawrence, *supra* note 10, at 844.

160. *Id.*

161. *Id.*

162. Adams, *supra* note 38, at 414.

163. *Id.*

164. *Id.*

165. Hyatt, *Thermal Efficiency and Taxes: The Residential Energy Conservation Tax Credit*, 14 HARV. J. LEGIS. 281, 310 (1977). Non-taxpayers, for purpose of this analysis, include individuals who have no taxable income or whose tax liabilities are nullified by eligibility for other tax benefits. *Id.*

166. *Id.* at 310-11.

167. See Landis, *supra* note 71, at 1058-59; Hyatt, *supra* note 165, at 311.

168. NEB. REV. STAT. § 76-1603.01(5) (Cum. Supp. 1980).

169. Hyatt, *supra* note 165, at 311. High interest rates create an incredible burden on energy conscious home owners seeking financial assistance for home improvements costing less than \$1,000. Small loans generate high administrative costs. As a consequence, loans of this nature are provided by private commercial finance companies which are allowed to charge higher interest

This lack of capital can be explained, in part, by the reluctance of financial institutions to take second mortgages to secure loans for the purchase of solar equipment,¹⁷⁰ and accompanying retrofit¹⁷¹ applications. In addition, recent federal policies concerning interest rates have limited the amount of capital available for loans.¹⁷² Economic conditions such as inflation and recession have fostered a reluctance by households to invest in retrofit, even when it makes good economical sense.¹⁷³ The bottom line is that tax credits or deductions are, at times, empty gestures because major purchases must be made before benefits are received.¹⁷⁴

Sensitive to these limitations, the Nebraska Unicameral, among other measures,¹⁷⁵ enacted amendments¹⁷⁶ to the Nebraska Mortgage Finance Fund Act.¹⁷⁷ The Legislature¹⁷⁸ concluded that a prudent means for reducing energy conservation costs was to make capital available through low interest loans.¹⁷⁹ Capital for such loans is to be acquired by extending the authority of a public corporate body¹⁸⁰ to issue bonds.¹⁸¹ The loans are to be directed to low and moderate income persons¹⁸² for use in purchasing residential energy conservation devices.¹⁸³ The funds may be channeled towards the ultimate borrowers through either mortgage lending institutions¹⁸⁴ or public utilities.¹⁸⁵ In order to improve the mar-

rates under state usury laws. The foregoing information was provided by Dan Meyer, legislative assistant to Senator John DeCamp, during a series of interviews conducted during the 86th Nebraska Legislature, second session [hereinafter cited as Meyer Interview II].

170. Comment, *supra* note 33, at 1028.

171. *Id.* "Retrofit is a spaceage term, describing the upgrading of a complex system through the insertion of improved components." R. STUBAUGH & D. YERGIN, *ENERGY FUTURE* 169 (1979). Essentially, retrofit, for the purpose of this article, includes such items as insulation, pilotless natural gas furnaces, automatic day-night thermostats, and storm windows.

172. Meyers Interview II, *supra* note 169.

173. Landis, *supra* note 71, at 1082.

174. See Hyatt, *supra* note 165, at 311.

175. See note 4 *supra*.

176. Act of April 23, 1980, L.B. 954, §§ 1-13, 1980 Neb. Laws 1073 (codified at NEB. REV. STAT. §§ 76-1603, -1606, -1618, -1619, -1622, -1622.01 to .04, -1623, -1623.01, -1624, -1626 (Cum. Supp. 1980)).

177. NEB. REV. STAT. §§ 76-1601 to -1651 (Cum. Supp. 1980).

178. *Id.* § 76-1603.01(4).

179. See *id.* §§ 76-1603.01(5), -1622(2).

180. *Id.* § 76-1618.

181. *Id.* § 76-1619(1). See *id.* § 76-1606(4) (definition).

182. *Id.* § 76-1622(2). See *id.* § 76-1606(5) (definition).

183. *Id.* § 76-1622(2). See *id.* § 76-1606(11) (definition). It should be noted that the definition includes the use of "solar energy." *Id.* § 76-1606(11)(h).

184. *Id.* § 76-1622(2).

185. *Id.* § 76-1622(3). See also §§ 76-1622.01 to .04, -1623.01.

ketability¹⁸⁶ of the bonds, "no bonds shall be issued under residential energy conservation loan program with a bond rating by a generally accepted bond rating agency of less than A."¹⁸⁷ As an additional limitation, the Legislature provided that "no loans shall be made under this subsection unless such loans are insured by the Federal Housing Administration under the National Housing Act, Title I, Property Improvement Loan Program."¹⁸⁸ Despite these conditional limitations to the issuance of the bonds, the low interest loans will provide low and moderate income homeowners with an alternative to costly energy consumption. These homeowners will have capital available to them in order to purchase residential energy conservation devices at an interest rate which is more affordable.

B. Gasohol¹⁸⁹

Nebraska's interest in encouraging development of gasohol as a motor fuel began in 1939.¹⁹⁰ The Nebraska Legislature in 1939, 1941, and 1943 considered bills which would have required a ten per cent blend of domestically produced grain alcohol in all motor fuels sold within the state.¹⁹¹ However, these proposals were defeated, primarily because of an active lobbying effort by the oil industry.¹⁹² More recently, the oil industry has attempted to control the development of gasohol by prohibiting its purchase through the use of company credit cards.¹⁹³ Other economic issues which have

186. See Meyer Interview II, *supra* note 169.

187. NEB. REV. STAT. § 76-1619(1) (Cum. Supp. 1980).

188. *Id.* § 76-1622(2).

189. Gasohol is a term used to refer to the use of alcohol as a motor fuel or a motor fuel component. Ethanol, more commonly referred to as ethyl alcohol or grain alcohol, is the most widely used in gasohol production. Ethanol can be produced from a variety of raw materials which contain carbohydrates. These raw materials include "spoiled grains, cannery wastes, cheese whey, agricultural residue, forestry residue, silfite pulp wastes, and waste paper." Daschle, *Congressional Action on Ethanol: Fulfilling the Need for a Renewable Domestic Motor Fuel*, 25 S.D. L. REV. 297, 297 n.1 (1980). Gasohol could be considered a form of solar energy since it can be derived from vegetation requiring sunlight to grow. See note 13 *supra*.

190. Daschle, *supra* note 189, at 304.

191. *Id.*

192. *Id.*

193. As late as January 1980, Exxon, Gulf, and Texaco announced that they would no longer honor company credit cards for the purchase of gasohol containing ethanol which was not produced or furnished by the respective oil companies. Daschle, *supra* note 189, at 305 n.51.

In Nebraska, similar practices have been used to discourage the promotion of gasohol. In addition, some major franchisors will not allow the sale of gasohol out of their branded pumps. If the local retailer persists in marketing gasohol, they can purchase a conversion kit from the franchisor to change the

impeded the development of gasohol include the lack of financing available for construction of new alcohol fuel production facilities¹⁹⁴ and restrictive marketing practices.¹⁹⁵ Critics of gasohol argue that it is an inefficient energy source because alcohol fuel production represents a negative energy balance.¹⁹⁶ In addition, the policy considerations of fuel versus food¹⁹⁷ has been prominent in public debates on gasohol.

shape and color of the pumps. The franchisors do not want the public to be confused as to whether the gasohol was the franchisor's product. When tax rebates were provided for the retailers of gasohol, the distributors initially performed the paper work for small local retailers. This relieved the retailer of a burdensome record keeping task. However, some franchisor distributors have ceased to perform such services. Although these actions are not illegal, they are a subtle form of resistance to the marketing of gasohol through lack of cooperation by the franchisor. Interview with Todd Sneller, Administrator of Agricultural Products Industrial Utilization Committee, 301 Centennial Mall South, Lincoln, Nebraska on March 2, 1981 [hereinafter cited as Sneller Interview].

194. The alcohol beverage industry does not have the production capacity to meet the new demands for alcohol as a motor fuel. As a consequence, any large scale development of alcohol as a motor fuel will cause a parallel demand for an increase in new construction of alcohol production facilities. This in turn will require large amounts of investment capital. Any lack of available financing becomes a crucial impediment to the industry's development. Daschle, *supra* note 189, at 300-01.
195. For full development of gasohol's potential, it is necessary that there be an "ability to market alcohol through the sale by branded independent retail motor fuel marketers of gasohol containing alcohol not produced or supplied by an oil company." *Id.* at 304. The key variable which controls marketing is franchise agreements. Branded independent retail marketers, in essence, have only one supplier who controls the property as well as the supply. By controlling the independent retailer marketer, the oil industry can effectively control competition. *Id.* at 304-08.
196. The concept of negative energy balance refers to the belief that more energy is consumed in the production of alcohol than can be derived from the resulting fuel. This conclusion stems from an analysis of the alcohol beverage industry's use of energy in its production process. This analysis is misleading since additional regulation is entailed in producing alcohol consumed as a human drink as opposed to alcohol used as a motor fuel. Furthermore, the beverage industry's production process was developed in an era when energy was cheap. As a result, existing production processes are not energy efficient. *Id.* at 297 n.1.
197. Critics of gasohol argue that vital food supplies will be diverted to fuel production. There is little evidence to support this contention. First of all, a whole host of raw materials contain the needed carbohydrates to produce ethanol. *See* note 189 *supra*. A portion of these raw materials are merely waste products which normally create disposal problems. Even agricultural grain which is used as a food source can be processed without impairing the protein or mineral content of the grain. The residue from alcohol production can be recovered as distiller's dry grain and be used as feed supplement for livestock. Daschle, *supra* note 189, at 297 n.1.

The Nebraska Gasohol and Energy Development Act¹⁹⁸ addresses the problem of financing construction of new alcohol facilities. The Act grants additional authority to the Agricultural Product Industrial Utilization Committee¹⁹⁹ to provide matching state funds²⁰⁰ to eligible applicants²⁰¹ for use in the construction of alcohol production facilities.²⁰² The capital needed to administer this program will be provided by legislative appropriations²⁰³ to the newly created Grain Alcohol Plant Construction Fund.²⁰⁴ Any city, county, or village²⁰⁵ which makes an application for such grants must meet criteria established by the committee²⁰⁶ and provide a resource statement.²⁰⁷ Those applicants who are awarded grants²⁰⁸ will receive state funds in an amount that matches their expenditures up to five hundred thousand dollars.²⁰⁹ Finally, the Act delegates the authority²¹⁰ to the Agricultural Products Industrial Committee to adopt rules and regulations necessary to carry out the mandates of the statute,²¹¹ subject to the Act's review provisions.²¹²

The Agricultural Alcohol Fuel Tax Fund was created to assist private industry in developing procedures and processes necessary for manufacturing and marketing gasohol.²¹³ The Legislature directed that the funds must be used for the following purposes:

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198. Nebraska Gasohol and Energy Development Act, L.B. 424, §§ 1-21, 1978 Neb. Laws 264 (codified at NEB. REV. STAT. §§ 66-801 to -820 (Cum. Supp. 1980)).
 199. The Agricultural Products Industrial Utilization Committee was established pursuant to NEB. REV. STAT. § 66-468 (Cum. Supp. 1980).
 200. *Id.* § 66-805. Although the Nebraska Gasohol and Energy Act authorizes the Agricultural Products Industrial Utilization Committee to grant matching state funds to qualified applicants seeking to construct grain alcohol plants and facilities, as of March 2, 1981, the Legislature has not appropriated state funds to be used for such purposes. Without such appropriations, the act is an empty shell. At best, these provisions, in conjunction with past legislative commitments to gasohol, send potential developers the message that Nebraska wants their business. Sneller Interview, *supra* note 193.
 201. NEB. REV. STAT. § 66-808 (Cum. Supp. 1980).
 202. *Id.* §§ 66-805, -808.
 203. *Id.* § 66-806.
 204. *Id.*
 205. This statute is designed to promote the construction of alcohol plants and facilities by local governmental entities. The Nebraska Unicameral created the Alcohol Fuel Tax Funds to encourage private industry to construct agricultural ethyl alcohol manufacturing plants. *Id.* § 66-467(4) (Reissue 1976).
 206. *Id.* § 66-809 (Cum. Supp. 1980).
 207. *Id.* § 66-811.
 208. *Id.* §§ 66-814, -815.
 209. *Id.* § 66-808.
 210. *Id.* § 66-819.
 211. *Id.*
 212. *Id.* §§ 66-812, -813, -817.
 213. Act of May 26, 1971, L.B. 766, §§ 1-11, 1971 Neb. Laws (codified at NEB. REV. STAT. §§ 66-410, -428, -452, -467 to -471 (Reissue 1976 & Cum. Supp. 1980)). It

- (1) Establishment, with cooperation of private industry, of procedures and processes necessary to the manufacture and marketing of agricultural ethyl alcohol-blended fuels;
- (2) Establishment of a procedure for entering such blended fuels into the marketplace by private enterprise;
- (3) Analysis of the marketing process and testing of marketing procedures to assure acceptance in the private marketplace of such blended fuels and by-products resulting from its manufacture;
- (4) Cooperation with private industry to establish privately owned agricultural ethyl alcohol manufacturing plants in Nebraska to supply demand for such products; and
- (5) Sponsoring research and development of industrial uses for by-products resulting from the manufacture of agricultural ethyl alcohol in order to enhance economic feasibility.²¹⁴

The provisions of the Agricultural Alcohol Fuel Tax Fund are focused on important marketing difficulties. However, the Act fails to deal with the potential for abuse caused by the oil industry's restrictive marketing practices.²¹⁵ The control of branded independent retailers by franchise agreements could significantly impede the marketing of gasohol.²¹⁶ Local branded independent retailers must not be subject to either direct or indirect pressures from their respective suppliers²¹⁷ who might discourage the use of gasohol which was not produced or supplied by the respective oil companies.²¹⁸

One possible approach to this problem would be to amend the Nebraska Gasohol and Energy Development Act²¹⁹ to restrict reprisals or discrimination against retailers or distributors of gasohol. Legislation is needed to prohibit monopolistic and unfair trade practices by energy suppliers. Such legislation should include provisions which prohibit a franchisor from engaging in "any

should be noted that § 66-471, a statement of public policy, refers to §§ 66-410, -428, -452, & -467 to -470. In addition:

The Tax Commissioner shall transmit monthly to the State Treasurer a report of the number of gallons of tax credit gasoline or motor vehicle fuel for which credits have been approved, and the treasurer shall thereupon transfer from the Highway Trust Fund to the Agricultural Alcohol Fuel Tax Fund one-fourth of one cent per gallon approved for credit.

NEB. REV. STAT. § 66-467.01 (Cum. Supp. 1980). This one-fourth of one cent per gallon revenue is obtained from amounts withheld from income tax credit on excise taxes paid on motor fuels. *See id.* §§ 66-445 to -466 (Reissue 1976).

214. NEB. REV. STAT. § 66-467(1)-(5) (Reissue 1976).

215. *See* note 195 *supra*.

216. Daschle, *supra* note 189, at 304.

217. "Numerous allegations have been made . . . that terminations and non-renewals, or threats of termination or non-renewal, have been used by franchisors to compel franchisees to comply with marketing policies of the franchisor." *Id.* at 306. *See* note 193 *supra*.

218. Daschle, *supra* note 189, at 305 n.51.

219. NEB. REV. STAT. §§ 66-801 to -824 (Cum. Supp. 1980).

act of economic reprisal against any person who is a franchisee of that franchisor because of that person's sale, consignment, or distribution of gasohol or any other act by that person which relates to the sale, consignment, or distribution of gasohol"²²⁰ Enforcement provisions should be included to give substantial protection to these concerns. For instance, if a supplier avoids compliance by ceasing to do business in this state, that supplier could be barred from conducting business within the state for a certain period of time.²²¹ In addition, the Director of the State Energy Office or any retailer or distributor damaged by a supplier's violations ought to be allowed to bring a suit to enjoin such violations. Finally, legislation should provide for recovery of damages together with costs, including reasonable attorneys fees, when any person who sells, consigns, or distributes gasohol is damaged as a consequence of a supplier's violation. These three enforcement provisions would provide remedies to both the state and the in-

220. A bill proposed by South Dakota Congressman Thomas A. Daschle, H.R. 3958, 96th Cong., 1st Sess., 125 CONG. REC. H2792 (May 7, 1979), is illustrative of the type of legislation which could help resolve this problem. Daschle, *supra* note 189, at 311-12. Some of Congressman Daschle's concerns were addressed by the Gasohol Competition Act of 1980, Pub. L. No. 96-493, § 26, 94 Stat. 2568 (1980) (to be codified at 15 U.S.C. § 26). The Act prohibits the credit card policies used by the oil industry in discouraging the marketing of gasohol. In addition, the Act prohibits:

Any person engaged in commerce, in the course of such commerce, directly or indirectly to impose any condition, restriction, agreement, or understanding that . . . otherwise unreasonably discriminates against or unreasonably limits the sale, resale, or transfer of gasohol or other synthetic motor fuel of equivalent usability

Id.

221. A similar statutory provision was provided in an act dealing with the distribution of energy sources. Distribution of Energy Sources Act, L.B. 587, §§ 1-11, 1973 Neb. Laws 1538 (codified at NEB. REV. STAT. §§ 66-701 to -711 (Reissue 1976)) (repealed 1980). The legislation was primarily designed to protect independent firms from loss of their sources of supply as a result of fuel shortages. In the event of any fuel shortages, a supplier was required to apportion available supply among the independent firms and its own outlets. The Distribution of Energy Sources Act was repealed by the Act of April 23, 1980, L.B. 954, § 65, 1980 Neb. Laws 1073. The Act was repealed at the request of the State Energy Office because it felt that the allocation problems addressed by the Distribution of Energy Sources Act could be addressed under proposed legislation which granted the Governor vital resource emergency powers. Interview with Larry Riegel, Director of Conservation Division, State Energy Office, Lincoln, Nebraska on Feb. 28, 1981. See Act of April 23, 1980, L.B. 954, §§ 51-56, 1980 Neb. Laws 1073 (codified at NEB. REV. STAT. §§ 84-162 to -167 (Cum. Supp. 1980)). The second reason for repealing the Act was to require suppliers to file statements pertaining to the supply and distribution of energy sources to the State Energy Office rather than to the Tax Commissioner. Interview with Larry Riegel, Director of Conservation Division, State Energy Office, Lincoln, Nebraska on Feb. 28, 1981.

jured individual, and each will be able to safeguard their own interests.

Other efforts to encourage the manufacturing and marketing of grain alcohol as a motor fuel include preferential excise tax treatment,²²² expansion of gasohol demand,²²³ and authorization of state and local alcohol production facility agreements.²²⁴ As of January 1, 1973, Nebraska has given preferential excise tax treatment to motor fuels which contain alcohol additives. Such preferential treatment amounts to a lower excise tax per gallon of gasoline which contains the alcohol additives as compared to non-blended gasoline.²²⁵ Currently, gasoline "which contains a minimum of ten per cent blend of agricultural ethyl alcohol whose purity shall be at least ninety-nine per cent alcohol"²²⁶ will receive preferential excise tax treatment. This blend is "subject to a state motor fuel tax which is five cents per gallon less than gasoline which does not contain such a blend . . ."²²⁷ However, as of July

222. NEB. REV. STAT. §§ 66-410, -428, -472 (Cum. Supp. 1980).

223. *See id.* §§ 66-410, -428, -472, -821 to -824.

224. *Id.* §§ 66-825 to -841. In *Douglas v. Thone*, 204 Neb. 836, 286 N.W.2d 249 (1979), the court held:

(1) The purposes of the act are public and not in violation of any constitutional provision. (2) The act in effect authorizes the state to guarantee payment of the bonds authorized to be issued by section 9 of the act and violates Article XIII, section 1, of the Nebraska Constitution. (3) The act evidences a legislative intention that the added 1-cent gasoline tax is severable and may stand alone.

Id. at 842, 286 N.W.2d at 252. Essentially, the Act authorized any municipality or county to enter into an agreement with the state to build or otherwise provide an alcohol plant or facility. NEB. REV. STAT. § 66-826 (Cum. Supp. 1980). The constitutional difficulty stemmed primarily from language in §§ 66-828 and 66-829 which, in essence, committed the state to guaranteeing the municipal bonds used to finance the construction of such plants in violation of constitutional debt limits. *Douglas v. Thone*, 204 Neb. at 846, 286 N.W.2d at 254.

The Act of May 23, 1979, L.B. 571, § 5, 1979 Neb. Laws 1420 (codified at NEB. REV. STAT. § 66-605 (Cum. Supp. 1980)) provided an increase in the excise tax of one cent per gallon. In addition, the Act provided:

an amount not to exceed the equivalent of one cent per gallon of the money collected pursuant to sections 66-410, 66-428, and 66-605 shall be placed in the Alcohol Plant Fund only when calls or demands are made on such fund pursuant to lease agreements entered into under this act . . .

NEB. REV. STAT. § 39-225 (Cum. Supp. 1980). The increase in the excise tax by one cent per gallon was to cover demands made by the Alcohol Plant Fund. Sneller Interview, *supra* note 193. The practical effect of holding provisions of the Alcohol Plant or Facility Development Act unconstitutional is that the Department of Roads received a windfall in excess of \$8,500,000 per year which would have otherwise been at the disposal of the Alcohol Plant Fund. Sneller Interview, *supra* note 193.

225. NEB. REV. STAT. §§ 66-410, -428 (Cum. Supp. 1980).

226. *Id.*

227. *Id.*

1, 1982, such preferential excise tax treatment will only apply to a blend which is "produced in . . . Nebraska by an alcohol plant in operation or under construction prior to July 1, 1982 . . ." ²²⁸ These statutory provisions are designed to encourage the promotion of gasohol plants in Nebraska by giving such plants a competitive edge. In addition, these preferential tax treatments help to increase the demand for gasohol. ²²⁹ Finally, the Nebraska Legislature has increased the market demand for gasohol by requiring the Department of Roads to "implement a program of using gasohol as a fuel in motor vehicles owned or operated by the department . . ." ²³⁰

III. PROMOTION OF THE "CONSERVATION ETHIC"

If the United States were to make a serious commitment to conservation, it might well consume 30 to 40 percent less energy than it now does, and still enjoy the same or even higher standard of living. That savings would not hinge on a major technological breakthrough, and it would require only modest adjustments in the way people live. Moreover, the cost of conservation energy is very competitive with other energy sources. The possible energy savings would be the equivalent of the elimination of all imported oil—and then some.

. . . .
 Conservation may well be the cheapest, safest, most productive energy alternative readily available in large amounts. By comparison, conservation is a quality energy source. It does not threaten to undermine the international monetary system, nor does it emit carbon dioxide into the atmosphere, nor does it generate problems comparable to nuclear waste. And contrary to the conventional wisdom, conservation can stimulate innovation, employment and economic growth. ²³¹

A substantial portion of Nebraska's energy policy hinges on selling the "conservation ethic." ²³² For instance, legislative rheto-

228. A similar tax break provided by MINN. STAT. § 296.02(7) (Supp. 1981) was struck down by the Fourth Judicial District Court of Hennepin County as "unconstitutionally discriminat[ing] against interstate commerce on its face and as applied to plaintiff in contravention of the Commerce Clause of the United States Constitution, Article I, Section 8, Clause 3." Archer Daniels Midland Co. v. Allen, file no. 770544 (4th Jud. Dist. Ct., Hennepin County, Minn., Dec. 19, 1980). The district court concluded that the Minnesota legislature attempted to favor Minnesota business and producers of agricultural products. The court did not accept the states characterization of its action as a "market participant." See *Reeves, Inc., v. Stake*, 100 S. Ct. 2271 (1980); *Hughes v. Alexandria Scrap Corp.*, 426 U.S. 794 (1976). The court's rationale was based on the *per se* invalidity analysis under *Philadelphia v. New Jersey*, 437 U.S. 617 (1978), and the commerce clause balancing analysis in *Pike v. Bruce Church, Inc.*, 397 U.S. 137 (1970).

229. The retail sales of gasohol have climbed from 58,000 gallons in 1978 to in excess of 32,000,000 gallons in 1980. Sneller Interview, *supra* note 193.

230. NEB. REV. STAT. § 66-822 (Cum. Supp. 1980). See also *Id.* §§ 66-821, -823, -824.

231. R. STOBAUGH & D. YERGIN, *supra* note 171, at 136-37.

232. The Nebraska Unicameral has enacted numerous statutes, scattered through-

ric advanced in support of L.B. 954 included such slogans as "you can pay me now or you can pay me later"²³³ and "energy saved is energy earned."²³⁴ The significance of the first slogan is that a substantial number of options are presently available to supply immediate energy needs. If these options are utilized, the severity of future energy crises will be lessened. However, misplaced reliance on future alternatives, at the expense of discarding current options, can only lead to severe future costs. The latter slogan takes cognizance of the philosophy that conservation ought to be conceptualized as an alternative energy source.²³⁵

A. Energy Conservation Financing by Utilities

The Nebraska Unicameral has recognized an "urgent and continuing need for capital"²³⁶ to encourage initial investments in "energy conservation measures."²³⁷ In addressing this need, the Legislature enacted provisions which allow publicly-owned electric utilities²³⁸ to make energy conservation loans²³⁹ to their customers.²⁴⁰ The purpose of this action is to broaden investment capital sources. These loans must only be used for making residential, agricultural, or commercial buildings²⁴¹ more energy effi-

out various parts of the Nebraska Revised Statutes, which are designed, either directly or indirectly, with energy conservation in mind. Such statutory provisions include:

(1) NEB. REV. STAT. § 76-1603.01 (Cum. Supp. 1980) (legislative findings for enactment of low interest loans for residential energy conservation device); (2) *id.* § 66-1001 (legislative findings for enactment of utility financing for energy conservation measures); (3) *id.* § 81-1602 (State Energy Office duties which include conservation); (4) *id.* § 81-1608 (legislative findings for enactment of lighting and thermal efficiency standards); (5) *id.* §§ 19-3901 to -3911 (Reissue 1977) (Nebraska Public Transportation Act); (6) *id.* § 81-161 (Cum. Supp. 1980) (government procedure to consider energy efficiencies in governmental procurement); (7) *id.* §§ 81-173(2), -178 (establishes energy conservation as a priority II when considering the urgency of need in renewal or maintenance of state structures); (8) *id.* § 39-614(3)(C) (authorization to make left-hand turns on red where two one-way streets intersect); (9) *id.* §§ 39-662, -666, -669.25 (Reissue 1978) (the adoption of the fifty-five mile per hour speed limit); (10) *id.* §§ 49-1301 to -1303 (the adoption of daylight savings time); and (11) *id.* §§ 57-901 to -922 (oil and gas conservation procedure in the production process).

233. Meyer Interview II, *supra* note 173.

234. *Id.*

235. *Id.*

236. NEB. REV. STAT. § 66-1001(4) (Cum. Supp. 1980).

237. *Id.* § 66-1005.

238. *Id.* § 66-1006.

239. *Id.* § 66-1007.

240. *Id.* § 66-1005. See also *id.* § 66-1003 (definition).

241. *Id.* § 66-1003. It should be noted that amendments to Nebraska Mortgage Finance Fund only pertained to loans for residential buildings. *Id.* §§ 76-

cient by installation of energy conservation measures.²⁴²

Even if publicly-owned utilities have available capital which they are willing to invest in energy conservation measures, the Utility Energy Conservation Finance Act severely limits their potential to participate actively in such a program. First, the utilities may only make loans to their customers if funds from the Nebraska Mortgage Finance Fund are depleted or are unavailable.²⁴³ Second, a utility which grants loans to its customers under this act is excluded from operating "an energy conservation plan for profit"²⁴⁴ or owning, "wholly or partially, any subsidiary involved in supplying or installing energy conservation measures under its plan."²⁴⁵ Finally, the definition of energy conservation measures does not include "devices to utilize solar energy, biomass, or wind power"²⁴⁶ as provided in amendments to the Nebraska Mortgage Finance Fund Act.

This last limitation suggests a critical area of energy development which has been neglected by the Nebraska Unicameral. Prior to the 1970s, the electric utilities' traditional approach to energy planning was based on the notion that every new unit of electricity produced costs less than the last.²⁴⁷ Under this approach, natural growth in electrical energy use benefited consumers by rate decreases.²⁴⁸ However, the benefits from economies of scale have been eroded by inflation especially because of rising fuel and new construction costs. Consequently, an intensive conservation and load management planning program aimed at slowing the

1603.01(9), -1623. In this respect, loans which can be made for energy conservation measures by utilities under provisions of §§ 66-1001 to -1011 are more expansive in scope than were amendments to the Nebraska Mortgage Finance Fund. *See id.* §§ 66-1001 to -1011.

242. *Id.* § 66-1005. *See id.* § 66-1004 (energy conservation measure defined).

243. *Id.* § 66-1005. The purposes behind this provision are to assure that bonds issued under the Nebraska Mortgage Finance Fund are marketable and to assure their success by limiting competitive sources of supply.

244. *Id.* § 66-1008(1).

245. *Id.* § 66-1008(2). These provisions are included for the purpose of keeping down the costs of purchasing and installing energy conservation measures. In addition, these provisions provide consumer protection benefits. Meyers Interview II, *supra* note 169. From a legal perspective, such provisions might have been included to avoid antitrust charges. *See White, supra* note 8, at 416-18.

246. *Compare* NEB. REV. STAT. § 76-1603.01(11) (h) (Cum. Supp. 1980) *with id.* § 66-1004.

247. NEW ENGLAND ELECTRIC SYSTEM COMPANIES, NEESPLAN 1980-1995 (Oct. 1979) (unpublished) (a copy is on file with the Nebraska Law Review). This is an unpublished executive summary of NEESPLAN which is a comprehensive long-range plan designed to meet the electric energy needs for the New England Electric System companies.

248. *Id.*

growth in demand for electrical energy has become a viable option.²⁴⁹ Of particular importance to this new energy development strategy is the involvement of public utilities in the development of solar energy.²⁵⁰

If Nebraska is committed to developing renewable energy sources and promoting the conservation ethic, legislation must provide utilities with economic interests in the development of solar energy.²⁵¹ The role of utilities could include making loans to its customers for the purchase and installation of solar equipment,²⁵² leasing utility-owned solar systems to its customers on their side of the meter,²⁵³ or building a solar collector system of its own and providing electricity through its generating capacities.²⁵⁴ Although the promotion of retrofit,²⁵⁵ as called for by energy conservation measures under the Utility Energy Conservation Act, could play a

249. *Id.* The Emergency Energy Curtailment Plan adopted by Los Angeles after the Arab embargo of 1973 was very effective in utilizing a combination of price and use regulation to cut growth in demand for electrical energy. R. STOBAUGH & D. YERGIN, *supra* note 171, at 144-46. Essentially, the plan established mandatory targets for the reduction of electrical use by all of the utility's customers, but left the customer with the ultimate decision of what specific cuts to make. The customer's electrical use during the same billing period in the previous year was the base from which the customers were required to cut back on their electrical use by a specified percentage. The target reductions were set at 10% for residential customers, 10% for industrial customers, and 20% for commercial customers. The penalty for non-compliance was a stiff 50% surcharge on the entire bill. The actual reduction in electrical energy used for residential, industrial, and commercial purposes was 18%, 11%, and 28% respectively. *Id.* at 145. This type of an approach may be an alternative to the use of mandatory thermal and lighting standards which cannot address the problem of "old" homes. See generally notes 261-87 & accompanying text *infra*.

250. TENNESSEE VALLEY AUTHORITY, TENNESSEE VALLEY AUTHORITY PROGRAM SUMMARY: DIVISION OF ENERGY CONSERVATION AND RATES (Oct. 1979) (unpublished) (a copy is on file with the Nebraska Law Review). This unpublished document summarizes current work being done by the Tennessee Valley Authority in the areas of energy conservation, solar and renewable energy, load management, and rate design. However, before public utilities become active participants in solar development, a whole host of legal issues must be addressed. For a general analysis of legal obstacles to utility participation in solar energy, see Dean & Miller, *Utilities at the Dawn of a Solar Age*, 53 N.D. L. REV. 329 (1977); Lawrence & Minan, *Solar Energy and Public Utility Rate Regulation*, 26 U.C.L.A. L. REV. 550 (1979); Schifflett & Zuckerman, *supra* note 8, at 330-33; White, *supra* note 256, at 414-27; Comment, *TVA's Statutory Authority to Promote Energy Conservation*, 44 TENN. L. REV. 845 (1977).

251. Unless public utilities are allowed to participate in the development of solar energy, such development might be viewed as a threat. Schifflett & Zuckerman, *supra* note 8, at 330. See White, *supra* note 8, at 410.

252. Dean & Miller, *supra* note 250, at 356.

253. White, *supra* note 8, at 410-12.

254. *Id.* at 409.

255. See note 171 *supra*.

significant role in conserving energy,²⁵⁶ the economic incentives under this Act are simply inadequate.

B. Functions Provide by State Government

1. Creation of State Energy Office

The State Energy Office came into being in September 2, 1977.²⁵⁷ The primary duty of the State Energy Office is to promote energy conservation,²⁵⁸ including, *inter alia*, developing and coordinating a central data system on energy, recommending energy policies and conservation measures to the governor and legislature, informing the public about energy and energy alternatives, and designing a state program for energy conservation.²⁵⁹ The State Energy Office duties were considerably expanded by L.B. 954.²⁶⁰ The most noteworthy of these new duties is the administration of the Lighting and Thermal Efficiency Standards Act.²⁶¹

2. Lighting and Thermal Efficiency Standards

The Lighting and Thermal Efficiency Standards Act created a minimum statewide lighting and thermal efficiency standard to be applied to new construction. New residential buildings of which construction is initiated on or after April 1, 1981, will be subject to these standards.²⁶² All other new buildings along with renovations²⁶³ of or additions²⁶⁴ to existing buildings will be subject to the

256. See R. STOBAUGH & D. YERGIN, *supra* note 171, at 166-72.

257. Act of May 6, 1977, L.B. 232, §§ 1-5, 1977 Neb. Laws 802 (codified at NEB. REV. STAT. §§ 81-1601 to -1605 (Cum. Supp. 1980)). "Effective July 1, 1980, the State Energy Office, created by § 81-1601, Revised Statutes of Nebraska, is hereby established as a separate agency of state government and the State Energy Office, as a division of the Nebraska Department of Revenue, is hereby dissolved." Exec. Order No. 3 (June 13, 1980) (Governor Thone) (a copy is on file with the Nebraska Law Review).

258. NEB. REV. STAT. § 81-1602 (Cum. Supp. 1980).

259. *Id.* The powers of the State Energy Office are provided in § 81-1603. See *id.* § 81-1603. Pursuant to legislative mandates, the State Energy Office has formulated a conservation plan. NEBRASKA DEP'T OF REVENUE, NEBRASKA ENERGY OFFICE, DRAFT OF NEBRASKA ENERGY CONSERVATION PLAN (March 1977) (a copy is on file with the Nebraska Law Review); NEBRASKA ENERGY OFFICE, BASE AND SUPPLEMENTAL NEBRASKA ENERGY CONSERVATION PLAN (Jan. 1980) (a copy is on file with the Nebraska Law Review).

260. NEB. REV. STAT. §§ 66-1009(6), 81-1602, -1606 to -1626 (Cum. Supp. 1980).

261. Act of April 23, 1980, L.B. 954, §§ 32-50, 1980 Neb. Laws 1073 (codified at NEB. REV. STAT. §§ 81-1608 to -1626 (Cum. Supp. 1980)) [hereinafter referred to as the Lighting and Thermal Efficiency Standards Act]. The standard which was adopted by the legislature was "Standard 90-75 of the American Society of Heating, Refrigeration, and Air-Conditioning Engineers, Inc. as it exists on the effective date of this act." *Id.* § 81-1609(10).

262. *Id.* § 81-1614(1).

263. *Id.* § 81-1614(2). See *id.* § 81-1609(6) (definition of renovation).

same standards as of January 1, 1982.²⁶⁵ However, the act does provide a list of exemptions.²⁶⁶ In addition, any person who owns or constructs a building to which this act applies may request a hearing to adopt an equivalency standard.²⁶⁷ Requests can be made before a local code authority or the State Energy Office. To assist administration, a request will automatically be approved if the local code authority or State Energy Office fails to act upon the request within sixty days from the date of filing.²⁶⁸ Appeals from such a determination may be made to the newly created Building Energy Conservation Standards Board.²⁶⁹

The State Energy Office is responsible for adopting rules and regulations to implement and administer this act.²⁷⁰ These rules and regulations must include procedures to insure: (1) compliance with the Act by prime contracts or through certification requirements; (2) an appeal of a determination of noncompliance; and (3) a hearing on a request for an equivalency standard determination.²⁷¹ In addition, the State Energy Office may adopt regulations specifying alternative standards to the Nebraska Building Energy Conservation Standard.²⁷² These acts by the State Energy Office must be approved by the Building Energy Conservation Standards Board.²⁷³

The Lighting and Thermal Efficiency Standards Act is designed to allow local and state cooperation in enforcement. Under the act,

264. *Id.* § 81-1614(2). *See id.* § 81-1609(7) (definition of addition).

265. *Id.* § 81-1614(2).

266. Exemptions provided under the Lighting and Thermal Efficiency Standards Act include:

(a) Any building which has a peak design rate of energy usage for all purposes of less than one watt, or three and four-tenths British Thermal Units per hour, per square foot of floor area;

(b) Any building which is neither heated nor cooled;

(c) Any building or portion thereof which is owned by the United States of America;

(d) Any mobile home as defined by section 71-4603;

(e) Any manufactured housing unit as defined by subsection (1) of section 71-1557; and

(f) Any building listed on the National Register of Historic Places.

(2) All residential buildings shall be exempt from lighting efficiency standards.

Id. § 81-1615.

267. *Id.* § 81-1616.

268. *Id.*

269. *Id.* § 81-1621.

270. *Id.* § 81-1612.

271. *Id.*

272. *Id.* § 81-1611. Under this provision the State Energy Office might have the authority to include some standard for building techniques which utilize passive solar energy designs.

273. *Id.* §§ 81-1611 to -1612.

any village, city, or county may adopt and enforce a lighting and thermal efficiency ordinance, resolution, or standard.²⁷⁴ However, such provisions must be approved by the State Energy Office before they are enforceable.²⁷⁵ The State Energy Office will approve local provisions if: (1) the standards will "not result in energy consumption greater than would result from the strict application of the Nebraska Building Energy Conservation Standard;"²⁷⁶ and (2) enforcement and inspection procedures are provided.²⁷⁷ The State Energy Office and the local authority may conduct inspections and investigations as part of their enforcement duties.²⁷⁸ However, permission for inspection must be acquired or else conducted pursuant to a warrant.²⁷⁹ To assist local governments in implementing and administering the act, the State Energy Office shall provide a continuing program of technical assistance and training of local officials.²⁸⁰

Where no local resolution, ordinance, or standard has been enacted, enforcement of the Nebraska Building Energy Conservation Standard will be provided by the State Energy Office.²⁸¹ If an architect or engineer is retained prior to the construction, renovation, or addition to any existing building, then they will be required to "place his or her state registration seal on all construction drawings which shall indicate that the design meets the Nebraska Building Energy Conservation Standard or its equivalency."²⁸² Otherwise, the primary contractor must certify to the State Energy Office "that such contractor will build, to the best of his or her knowledge, according to the Nebraska Building Energy Conservation Standard or equivalent standard as adopted by the office."²⁸³ A copy of this certification must be filed with any application to an electric utility for initial service.²⁸⁴

Where the Director of State Energy Office or local code authority becomes aware of noncompliance, the "director may order the owner to take those actions necessary to bring the building into compliance."²⁸⁵ Failure to comply with such an order is a Class IV misdemeanor.²⁸⁶ However, nothing in this section operates to limit

274. *Id.* § 81-1618.

275. *Id.*

276. *Id.*

277. *Id.*

278. *Id.* § 81-1617.

279. *Id.*

280. *Id.* § 81-1620.

281. *Id.* § 81-1622.

282. *Id.* § 81-1622(2).

283. *Id.* § 81-1622(1).

284. *Id.* § 81-1624.

285. *Id.* § 81-1625.

286. *Id.* § 81-1626.

the owner's right to bring a civil action against the contractor, architect, or engineer for damages for the cost of bringing the building into compliance.²⁸⁷

3. *Vital Resource Emergency Powers*

L.B. 954²⁸⁸ granted additional emergency powers to the Governor which may be used if a vital resource crisis arises.²⁸⁹ A vital resource crisis is defined as "the occurrence or imminent threat of widespread or severe damage, injury, or loss of life or property resulting from the shortage of electricity, petroleum based fuels, uranium, coal, or any other form of energy."²⁹⁰ When a vital resource crisis is imminent or has occurred,²⁹¹ the Governor has the authority to:

- (1) Regulate the operating hours of vital resources consuming instrumentalities . . . ;
- (2) Establish a system for the distribution of the supply of energy or vital resource;
- (3) Curtail, regulate, or direct the public and private transportation and use of the vital resource which is in short supply . . . ;
- (4) Delegate any administrative authority vested in him or her to the State Energy Office or any other state agency or its respective director; and
- (5) Provide for the temporary transfer of directors, personnel, or functions of state departments and agencies for emergency measures. . . .²⁹²

In addition, the Governor, in conjunction with his or her other powers, may grant exemptions, either partial or complete, to any person, association, partnership, or corporation.²⁹³

The Act includes several limitations on the Governor's authority to declare a vital resource emergency. First, in order to invoke the emergency powers, the Governor must file a declaration with the Secretary of State.²⁹⁴ Second, the Governor's proclamation declaring a state of emergency will automatically be terminated after fifteen days unless renewed by a further proclamation.²⁹⁵ Third, the Legislature may terminate the state of emergency at any time by resolution.²⁹⁶ Finally, the Legislature may pass a resolution de-

287. *Id.* § 81-1625.

288. Act of Apr. 23, 1980, L.B. 954, §§ 51-56, 1980 Neb. Laws 1073 (codified at NEB. REV. STAT. §§ 84-162 to -167 (Cum. Supp. 1980)).

289. NEB. REV. STAT. § 84-163(1) (Cum. Supp. 1980).

290. *Id.* § 84-163(1).

291. *Id.* § 84-164.

292. *Id.* § 84-166.

293. *Id.* § 84-167.

294. *Id.* § 84-164.

295. *Id.*

296. *Id.*

claring that a vital resource emergency exists, in which case the Governor must respond within ten days with either a written statement of his or her plan or the reasons justifying the decision not to issue a proclamation.²⁹⁷

IV. CONCLUSION

An effective comprehensive energy policy requires the right mixture of governmental regulation, financial incentives, and publicity. In addition, regulation and financial incentives should be structured to facilitate flexible decision-making in order to assure that innovation is not inhibited. The Nebraska Legislature responded to the energy crisis by promoting the "conservation ethic" and renewable energy sources. The Unicameral with varying degrees of success, has utilized each of these goals in its formation of public policy.

With the exception of implementing the Light and Thermal Efficiency Standards Act, the function of the State Energy Office does not include regulation. Instead, reliance has been placed on the forces of free enterprise to provide the transition to renewable energy sources. In the interim, the State Energy Office serves a public relations function of disseminating information to consumers and industry. The flaw with this approach is that traditional market forces are not cognizant of public policy considerations which are external to the laws of supply and demand. National security, freedom of mobility, the sanctity of the home, and environmental protection are but a few of these external factors.

Nebraska has taken some noteworthy steps in its development of its energy policy. For example, the enactment of governmental low interest loans for the purchase of residential energy conservation devices addressed a public need which is often neglected. Furthermore, when combined with sales tax rebates and property tax exemptions, a well balanced program of financial incentives exists for the development of solar energy. Whether these financial incentives will be effective might depend upon a fundamental and inevitable change in the scope of economic interests which ought to be allowed to utilize in developing solar energy. However, Nebraska's largest success has been in the use of financial incentives in marketing of gasohol. For example, the retail sales of gasohol have climbed from 58,000 gallons in 1978 to more than 32,000,000 gallons in 1980.²⁹⁸

Part of gasohol's success in Nebraska can be attributed to publicity. The State Energy Office, in conjunction with proponents of

297. *Id.* § 84-165.

298. Sneller Interview, *supra* note 193.

gasohol, has promoted an extensive campaign educating a misinformed public. Presently, gasohol development is at a critical stage, balancing delicately between the public's need and adversarial vested interests. Some proponents of gasohol suggest that another energy crisis will be needed in order to tip the scales to an unequivocal commitment to gasohol production. As to the likelihood of such an occurrence in the 1980's, the question is not "if" an energy crisis will occur, but rather "when" will it occur. Unfortunately, some policy makers only react to energy crises, instead of taking a more prudent course to prevent their occurrence.

By developing flexibility in the formulation of energy policies, the severity of such energy crises can be lessened and perhaps avoided entirely. Legislative awareness to this proposition can be illustrated by the employment of broad definitional sections for the inclusion of financial incentives, and by promoting the conservation ethic. The vast amount of conservation options available buys the time which is necessary to develop renewable energy sources. Yet conservation efforts lose their effectiveness if they are not backed up by forceful inducements created either by regulation or market prices. Finally, extensive commitments to conservation cannot be the sole solution to the state's energy need because it is an inescapable conclusion that traditional fossil fuels are finite resources which will eventually be depleted. Here again, the only debatable issue is "when."

Therefore, the *laissez faire* attitude towards the development of renewable energy is no longer adequate or prudent. Nebraska should be applauded for making the crucial transition towards energy consciousness. However, the major legislative enactments to date have only provided the foundation upon which to build a comprehensive, coherent, and consistent state energy policy. Hopefully, Nebraska will not become complacent with its achievements and will continue to evaluate and advocate the development of renewable sources of energy.²⁹⁹

Mark C. Williams '81

299. Proposed legislation dealing with energy development in the eighty-seventh legislature includes: (1) L.B. 158, 87th Legis., 1st Sess. § 1 (1981) (creation of an energy audits fund and prescription for its use); (2) L.B. 473, 87th Legis., 1st Sess. § 1-22 (1981) (adoption of procedures for the citing of power and energy production facilities and the creation of a public impact fund to be distributed to affected political subdivisions); (3) L.B. 151, 87th Legis., 1st Sess. § 1-12 (1981) (creation of property tax exemption for the increased value of any real property resulting from improvements designed primarily for energy conservation); and (4) L.B. 257, 87th Legis., 1st Sess. § 1-27 (1981) [hereinafter cited as L.B. 257].

L.B. 257 provides an amendment to NEB. REV. STAT. § 18-1720 (Reissue

1977) which defines nuisance for the purpose of this section to "include any building which does not meet minimum standards for energy efficiency established by such city or village. [In addition, all] cities and villages may by ordinance establish minimum standards for energy efficiency designed to prevent the unnecessary waste of nonrenewable energy sources in existing buildings." L.B. 257, § 1, 87th Legis., 1st Sess. (1981).

Under L.B. 257, § 11, before application for construction by electric generation facilities can be granted, the Power Review Board and the applicant shall consider:

(1) The long-range costs of new, innovative, or alternative technologies or fuels;

(2) The long-range costs of alternative methods of meeting the energy needs of the applicant's customers, including electric generation capacity available to the applicant by firm contract to purchase, by participation from another supplier, from facilities pending or previously approved by the board, from alternative methods of meeting energy demands, or from methods of reducing electric energy demands through conservation of energy or load management.

Id.

Finally, L.B. 257, §§ 17-26, amends scattered provisions in NEB. REV. STAT. §§ 77-2714 to -27,135 (Reissue 1976), to provide for a tax credit against income taxes. The tax credit will be allowed to individuals and corporations for the installation of either a residential renewable energy source system or a business renewable energy source system.

Renewable energy source systems shall mean with respect to a building, any addition, alteration, or improvement which is designed to utilize wind energy; active solar energy based on mechanically forced energy transfer; passive solar energy based on convective, conductive, or radiant energy transfer to reduce the energy requirements of the building; or biomass energy derived from nonfossil plant material. This definition includes solar process heat devices, solar electric devices, structural components of earth sheltered buildings or passive solar energy buildings if such components substantially reduce the energy requirements of such building from nonrenewable energy sources, and those fireplaces which are integral parts of a system which is designed to utilize passive or active solar energy.

L.B. 257, § 19, 87th Legis., 1st Sess. (1981).