

**DEVELOPERS SEE GREEN AND NEIGHBORS SEE RED:
A SURVEY OF INCENTIVES AND MANDATES FOR
THE DEVELOPMENT OF ALTERNATIVE ENERGY AND
THE UNFOLDING CHALLENGES**

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I. INTRODUCTION

Global warming, climate change, and shrinking polar icecaps—the causes and cures—have now become part of our everyday conversations. In 2007, both the Academy Award for Best Documentary Feature and the Noble Peace Prize were awarded to former Vice President Al Gore, Jr. for his work in the climate change arena.

Alternative sources of power and fuel are being sought for their role in reducing greenhouse gas emissions. The need for increased development and sources of renewable fuels are being cited as a means to lessen the dependence of the United States on foreign oil. Alternative energy development is playing an ever-increasing role in the national security of the United States.²

The federal government and many of the states have reacted by not only providing incentives for the increased development and production of alternative energy, but in many cases mandating the use of alternative energy statutorily. A large and growing industry has surged over the past few years in an attempt to take advantage of the state and federal financial incentives and to respond to statutory mandates.

The growth in the sector was certainly expected. What was largely unexpected, however, was the growing discontent and organized resistance to the surge in the number of wind farms and biofuel facilities (and their increase in size) by persons who likely consider themselves in the abstract to be, at a minimum, environmentally friendly, but who bear a common attribute of living near such facilities.³ Even persons who have established environmental credentials are not immune from such concerns, as is evident by the identities of some of the opponents of the now-famous wind project known as “Cape Wind.”⁴

2. President Bush set a goal to require thirty-five billion gallons of renewable and alternative fuels in 2017 and stated in his 2007 State of the Union Address:

It is our vital interest to diversify America's energy supply. . . . We must continue changing the way America generates electric power, by even greater use of clean coal technology, solar and wind energy . . . and expand the use of . . . biodiesel fuel. We must continue investing in new methods of producing ethanol using everything from wood chips to grains, to agricultural wastes. Address Before a Joint Session of Congress on the State of the Union, 1 Pub. Papers 57 (January 29, 2007), available at <http://www.whitehouse.gov/news/releases/20070123-2.html>.

3. A neighbor of a proposed New York wind farm states: I will say this just once: not in my backyard People in Delaware County think it ought to be in the Adirondacks. People in the Adirondacks think it should be in the ocean off Massachusetts. Teddy Kennedy thinks it should be somewhere else. *Everyone wants alternative energy, but no one wants it where they have to look at it.* Peter Applebome, *On an Upstate Wind Turbine Project, Opinions as Varied as the Weather*, N.Y. TIMES, Oct. 28, 2007, at A27, available at <http://www.nytimes.com/2007/10/28/nyregion/28towns.html> (emphasis added).

4. Pam Belluck, *Plan for Wind Farm off Massachusetts Clears State Hurdle*, N.Y. TIMES, Mar. 31, 2007, at A9, available at <http://www.nytimes.com/2007/03/31/us/31wind.html?n=Top/News/Science/Topics/Environment>.

This article is a survey of some of the key incentives and mandates driving the growth of the alternative energy sector. Surveyed also are key statutes, regulations, and representative lawsuits challenging such growth: if not *per se*, at least not in the complainants' backyards.

II. THE RESPONSE

A. Incentives and Protections

As mentioned, in attempts to deal with the threat of global warming and to minimize demand for foreign sources of energy, the federal government has established a number of incentives and protective tariffs to increase the production of alternative or renewable energy. In addition to these incentives and protections, a growing number of states have enacted mandates for utilities to use a specified percentage of renewable fuels in the production of electrical power.

1. Production Tax Credit

The federal government provides what has become the greatest incentive to the development of wind energy in the production tax credit (PTC).⁵ The PTC currently provides a 1.9 cent per kilowatt federal credit against U.S.-sourced income for a ten-year period.⁶

The PTC is based on the electricity produced by the taxpayer from a qualified energy resource⁷ at a qualified facility⁸ during the ten-year period commencing on the date the qualified facility was originally placed in service and power is sold by the taxpayer to an unrelated person during the tax year.⁹

The PTC is set to expire on January 1, 2009 (that is, a wind project must be placed in service by December 31, 2008).¹⁰ The credit has experienced a cyclical life, having expired and been renewed a number of times. The past expiration and renewal of the PTC has produced cycles of large growth in wind capacity followed by steep declines in growth. This cycle is amply reflected below.¹¹

5. See I.R.C. § 45 (2007).

6. See *id.* § 45(a); see also § 45(b) (providing limitations and adjustments). Perhaps the most notable limitation is that provided in § 45(b)(3) which reduces the PTC with respect to wind projects financed by federal or state grants, tax-exempt obligations or other forms of state- or federally-subsidized energy financing. See also Rev. Proc. 2007-65, 2007-45 I.R.B. 967 (providing guidance to partnerships for satisfying the requirements for a safe harbor in the allocation of the credit).

7. I.R.C. § 45(c)(1)(A) (identifying wind as a qualified energy resource).

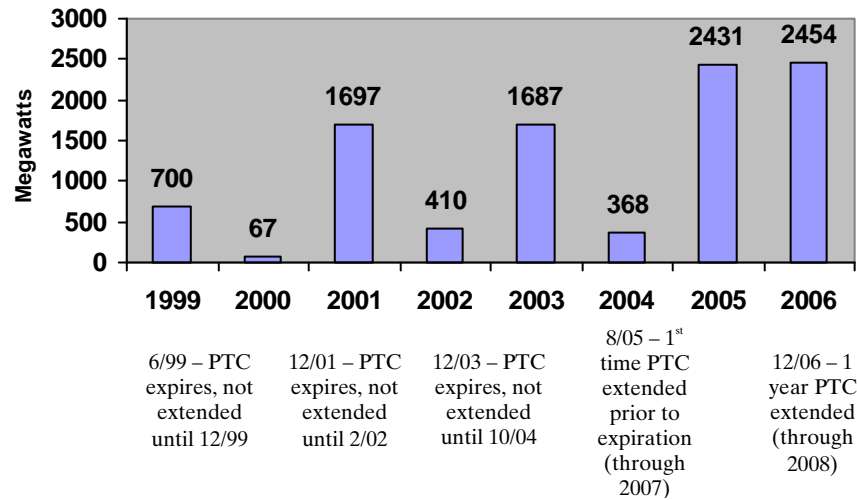
8. *Id.* § 45(d) (defining qualified facilities).

9. *Id.* § 45(a).

10. *Id.* § 45(d)(1).

11. See U.S. DEP'T OF JUSTICE, ENERGY EFFICIENCY AND RENEWABLE ENERGY, DOE/GO102007-2451, WIND ENERGY MULTIYEAR PROGRAM PLAN FOR 2007-2012 (2007),

U.S. Wind Power Capacity Additions, 1999-2006



The vitality of the PTC has many supporters, and legislation has been introduced seeking to again extend the PTC.¹²

2. The Energy Independence and Security Act of 2007 and the Energy Policy Act of 2005

The first U.S. renewable fuels standard (RFS) took effect September 1, 2007, as authorized by the Energy Policy Act of 2005 (EPAct 2005).¹³ Pursuant to the RFS program, at least 7.5 billion gallons of renewable fuels must be blended into motor fuel sold in the United States by 2012.¹⁴ It further requires minimum volumes of renewable fuels be used each year up to 2012.¹⁵ In 2007, approximately 4.7 billion gallons of fuel had to come from renewable fuels.¹⁶

The EPAct 2005 was amended in some important ways for the biofuels

<http://www1.eere.energy.gov/windandhydro/pdfs/40593.pdf>; see also AM. WIND ENERGY ASS'N, U.S. WIND POWER CAPACITY, ANNUAL & CUMULATIVE (MW) (2006), <http://awea.org/Projects/growth.xls>

12. See H.R. 6049, 110th Cong. (2008) (passed the House of Representatives on May 21, 2008; providing a one-year extension to the PTC); See H.R. 197, 110th Cong. (2007) (proposed legislation, sponsored by Rep. Pomeroy and co-sponsored by 130 congressmen, seeking to extend the PTC for an additional five years through December 31, 2013).

13. Energy Policy Act of 2005 § 1501, 42 U.S.C.A. § 7545 (West 2007).

14. *Id.* § 1501(a)(2).

15. *Id.*

16. *Id.*

industry, in particular by the Energy Independence and Security Act of 2007 (EISA).¹⁷ Specifically, the RFS established by the EPAct 2005 was considerably increased, and separate standards were provided for various types of biofuels.¹⁸ The new RFS provides a nine billion gallon standard commencing in 2008 and increases to thirty-six billion gallons in 2022.¹⁹ It bears noting that, commencing in 2016, the RFS increases must come from advanced biofuels—generally speaking, cellulosic ethanol and non-corn starch based biofuels.²⁰ The RFS may be temporarily waived by the Administrator of the Environmental Protection Agency if the Administrator determines that there are significant market disruptions.²¹

The EPAct 2005 also provided many tax-related incentives to the biofuels industry. Some of the more prominent are summarized below.

(a) Volumetric Ethanol Excise Tax Credit

A federal tax credit of fifty-one cents per gallon is generated for every gallon of ethanol that is blended with gasoline in calendar years before 2009, reduced to forty-five cents for every gallon in calendar years after 2008.²² Also known as the “blender’s credit,” the recipients of the credit are the gasoline suppliers who blend the ethanol into gasoline. This credit is scheduled to expire on December 31, 2010.²³

(b) Biodiesel and Agribiodiesel Tax Credit

This is a federal tax credit that is available to producers of biodiesel and producers of agribiodiesel.²⁴ It is also available to producers who blend biodiesel with diesel fuel. The credit is one dollar per gallon of agribiodiesel and fifty cents per gallon for blenders of biodiesel.²⁵ For purposes of this credit, “agribiodiesel” means biodiesel produced from virgin sources of agricultural products,²⁶ and “biodiesel” is defined as biodiesel produced from recycled sources.²⁷ This credit is scheduled to expire on December 31, 2008.²⁸

(c) Small Agribiodiesel Producer Tax Credit

This federal tax credit provides qualifying producers a credit of ten

17. Energy Independence and Security Act of 2007, Pub. L. No. 110-140, 121 Stat. 1492.

18. *See id.* § 202.

19. *Id.*

20. *See id.*

21. *Id.*; *See* Part IV.D.4. Food Versus Fuel Debate.

22. I.R.C. § 6426(b)(2)(A)(2008).

23. *Id.* § 6426(b)(5).

24. *Id.* § 40A(b)(1)-(2).

25. *Id.* § 40A(b)(1)-(3).

26. *See id.* § 40A(d)(2).

27. *See id.* § 40A(d)(1).

28. *Id.* § 40A(g).

cents per gallon of agribiodiesel produced.²⁹ There is an annual cap of \$1.5 million per year (that is, fifteen million gallons of agribiodiesel produced per year).³⁰ This credit is scheduled to expire December 31, 2008.³¹

(d) Small Ethanol Producer Tax Credit

Similar to small agribiodiesel producers, qualifying ethanol producers are eligible for a ten cent per gallon federal tax credit for ethanol produced.³² The annual limit is \$1.5 million per year (that is, fifteen million gallons of ethanol produced per year).³³ This credit is scheduled to expire on December 31, 2010.³⁴

(e) Cellulosic Ethanol Depreciation Deduction

A cellulosic ethanol plant placed in service before January 1, 2013 and acquired after December 20, 2006, is entitled to a fifty percent deduction of the adjusted basis of the taxpayer in the plant in the year it is placed in service.³⁵ This deduction is limited to enzymatic ethanol plants and is reduced to the extent tax-exempt bonds are utilized in the financing of the plant.³⁶

3. Tariffs

Imported ethanol is subject to tariffs of fifty-four cents per gallon and on a 2.5 percent *ad valorem* basis.³⁷ The purpose of such tariffs is to promote the development of the United States ethanol industry. The tariffs can be avoided on imports from countries within the Caribbean Basin Initiative (CBI).³⁸ By dehydration of the ethanol in a CBI country, however, non-CBI produced ethanol also enjoys the benefits of freedom from United States tariffs. This CBI exemption is permitted on imports

29. *Id.* § 40A(b)(5).

30. *Id.* § 40A(b)(5)(C).

31. *Id.* § 40A(g).

32. *Id.* § 40(b)(4).

33. *Id.* § 40(b)(4)(C).

34. *Id.* § 40(e)(1)(A).

35. *Id.* § 168(l).

36. *See id.*

37. The Food, Conservation and Energy Act of 2008 (2008 Farm Bill), Pub. L. No. 110-234, § 15333 (extending the tariff through December 31, 2010).

38. *See* 19 U.S.C.A. § 2701 (West 2007). Currently Jamaica, Costa Rica, El Salvador, and Trinidad and Tobago are exporting ethanol to the United States under the CBI. Duty-free imports of ethanol into the United States are also available under the U.S.-Central America Free Trade Agreement. *See* BRENT D. YACOBUCCI, ETHANOL IMPORTS AND THE CARIBBEAN BASIN INITIATIVE, CRS Report RS21930, 4-5 (2007); *see generally* CLARE RIBARDO SULKE AND BRENT D. YACOBUCCI, ETHANOL AND OTHER BIOFUELS: POTENTIAL FOR U.S. - BRAZIL ENERGY COOPERATION, CRS Report RL34191 (2007); MARCOS J. JANK ET AL., EU AND U.S. POLICIES ON BIOFUEL: POTENTIAL IMPACTS ON DEVELOPING COUNTRIES (2007), *available at* http://gem.sciences-po.fr/content/research_topics/trade/ebp_pdf/GMF%20paper.pdf.

of up to seven percent of the United States annual ethanol production.³⁹

B. State Mandates

In addition to the federal incentives, a number of states have enacted renewable mandates for electricity production. One of the earliest state mandates was the 1994 requirement imposed by the state of Minnesota on Northern States Power Company to fund the development of electricity from renewable energy sources in connection with the grant of the right to the utility to store nuclear waste at its Prairie Island storage facility.⁴⁰

Twenty-five states plus the District of Columbia currently have imposed mandates on certain utilities to generate electrical power from renewable sources.⁴¹ Several of these states have recently amended their initial statutes to increase the production requirement, highlighting the importance states place on mandates.⁴²

The goal of the mandates is to increase the amount of electricity generated from renewable sources.⁴³ Affected utilities are obliged to respond by developing appropriate sources of electricity from renewable sources, thereby creating the market for such sources of power. In considering state mandates, the identified key components of such statutes—in addition to the actual requirements—are believed to be the sources of eligible renewable fuel, the application of renewable energy credits (RECs) to the satisfaction of the mandate, and the presence of a “safety valve” in the event of a utility’s noncompliance with the mandate. These factors are broken down and summarized below.⁴⁴

39. 42 U.S.C.A. § 2703(c)(3)(C)(i)(II) (West 2007).

40. MINN STAT. § 116C.779 (2007).

41. Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Iowa, Maine, Maryland, Massachusetts, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oregon, Pennsylvania, Rhode Island, Texas, Washington and Wisconsin.

42. For instance, effective October 1, 2007, Connecticut increased its requirement to twenty-seven percent by 2020. 2007 CONN. ACTS 07-242 §§ 40(a)(15), 43(a) (Reg. Sess.). Also in 2007, Delaware doubled its requirement to twenty percent by 2019. DEL. CODE ANN. tit. 26, §354(a) (2007). On March 27, 2007, Colorado amended its mandate to require twenty percent of retail electricity sales to come from renewable sources by 2020. COLO. REV. STAT. § 40-2-124(1)(c)(I)(E) (2007).

43. Certain states do permit utilities to satisfy their mandate obligation by purchasing renewable energy credits (RECs), which will be discussed further.

44. UNION OF CONCERNED SCIENTISTS, TABLE C-1, STATE MINIMUM RENEWABLE ENERGY REQUIREMENTS (AS OF APRIL 2007), *available at* www.ucusa.org/assets/documents/clean_energy/State_Renewable_Energy_Standards.pdf (last visited Nov. 16, 2007); Interstate Renewable Energy Council, Renewables Portfolio Standards (Sept. 2007), http://www.dsireusa.org/documents/SummaryMaps/RPS_Map.ppt (last visited Oct. 9, 2007); Database of State Incentives for Renewables and Efficiency, Renewables Portfolio Standards for Renewable Energy (2007), <http://www.dsireusa.org/library/includes/type.cfm?Type=RPS&Back=regtab&CurrentPageID=7&EE=0&RE=1&Search=TableType> (last visited Oct. 9, 2007).

The level of the state mandates and the eligible sources are as follows:

STATE	REQUIREMENT	ELIGIBLE SOURCES
Arizona	15% by 2025. ⁴⁵	Biogas, biomass, hydroelectric, fuel cells using renewable fuels, geothermal, wind, solar, landfill gas. ⁴⁶
California	Utilities must increase total renewable energy by at least 1% annually, until they reach 20%. Utilities must be at 20% by 2010. ⁴⁷	Biomass, solar, wind, geothermal, fuel cells using renewable fuels, hydroelectric, digester gas, solid waste conversion, landfill gas, ocean. ⁴⁸
Colorado	Retail utilities: 20% by 2020. ⁴⁹ Co-op associations and municipally-owned utilities: 10% by 2020. ⁵⁰	Solar, wind, geothermal, biomass, hydroelectric, fuel cells using renewable resources, recycled energy. ⁵¹
Connecticut	27% by 2020. ⁵²	Solar, geothermal, wind, ocean, fuel cells, landfill gas, hydroelectric, hydrogen, biomass, alternative fuels. ⁵³
Delaware	20% by June 1, 2019. ⁵⁴	Solar, wind, ocean, geothermal, fuel cells powered by renewable fuels, combustion of gas from digestion of organic material, hydroelectric, biomass, landfill gas. ⁵⁵
District of Columbia	11% by 2022; at least 0.386% from solar energy. ⁵⁶	Solar, wind, biomass, landfill or wastewater treatment gas, geothermal, ocean, fuel cells producing electricity from a renewable source, hydroelectric,

45. ARIZ. ADMIN. CODE § R14-2-1804 (2007).

46. *Id.* § R14-2-1802.

47. CAL. PUB. UTIL. CODE § 399.15(b)(1) (West 2007).

48. *Id.* § 399.12(c); CAL. PUB. RES. CODE § 25741(b)(1) (West 2007).

49. COLO. REV. STAT. § 40-2-124(1)(c)(I) (2007).

50. *Id.* § 40-2-124(1)(c)(V).

51. *Id.* § 40-2-124(1)(a).

52. CONN. GEN. STAT. § 16-245a(a)(15), 16-243q(a) (2007).

53. *Id.* § 16-245n(a).

54. DEL. CODE ANN. tit. 26, § 354(a) (2007).

55. *Id.* § 253(6).

56. D.C. CODE § 34-1432(c)(16) (2007).

57. *Id.* § 34-1431(15)-(16).

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STATE	REQUIREMENT	ELIGIBLE SOURCES
		waste-to-energy. ⁵⁷
Hawaii	20% by 2020. ⁵⁸	Wind, solar, hydroelectric, biogas, geothermal, ocean, biomass, biofuels, hydrogen produced from renewable energy sources. ⁵⁹
Illinois	25% by June 1, 2025; to the extent available, at least 75% of the renewable energy must come from wind generation. ⁶⁰	Wind, solar, biodiesel, biomass, hydroelectric, landfill gas. ⁶¹
Iowa	Iowa's two investor-owned utilities must contract for a combined total of 105 MW of their generation from renewable sources. ⁶²	Solar, wind, waste, biomass, refuse-derived fuel, hydroelectric. ⁶³
Maine	10% by 2017. ⁶⁴	Fuel cells, tidal, solar, wind, geothermal, hydroelectric, biomass, generators fueled by municipal solid waste in conjunction with recycling. ⁶⁵
Maryland	9.5% by 2022, including at least 2% derived from solar. ⁶⁶	Solar, wind, biomass, landfill or wastewater gas, geothermal, ocean, fuel cells producing electricity from a renewable source, hydroelectric. ⁶⁷
Massachusetts	4% by 2009; an additional 1% increase each year until the Massachusetts Division of Energy Resources suspends the increase. ⁶⁸	Solar, wind, ocean, fuel cells utilizing renewable fuels, landfill gas, waste-to-energy, hydroelectric, biomass. ⁶⁹

58. HAW. REV. STAT. § 269-92(a)(3) (2007).

59. *Id.* § 269-91.

60. 20 ILL. COMP. STAT. 3855/1-75(c)(1) (2007).

61. *Id.* 3855/1-10.

62. IOWA CODE § 476.44(2) (2007).

63. *Id.* § 476.42.

64. ME. REV. STAT. ANN. tit. 35-A, § 3210(3-A)(A)(10) (2007).

65. *Id.* § 3210(2)(c).

66. MD. CODE ANN., PUB. UTIL. COS. § 7-703(b)(17) (West 2007).

67. *Id.* § 7-701(l)-(m).

68. 225 MASS. CODE REGS. 14.07 (2007).

69. MASS. GEN. LAWS ch. 25A, § 11F(b) (2007).

STATE	REQUIREMENT	ELIGIBLE SOURCES
Minnesota	Xcel Energy: 30% by the end of 2020, at least 25% of which must be generated by wind. Other Utilities: 25% by the end of 2025. ⁷⁰	Solar, wind, hydroelectric, hydrogen, biomass, landfill gas. ⁷¹
Montana	15% for the year 2015, and for each subsequent year. ⁷²	Wind, solar, geothermal, hydroelectric, landfill or farm-based methane gas, wastewater gas, biomass, fuel cells from renewable sources. ⁷³
Nevada	20% in 2015, and for each subsequent year; at least 5% of that amount must be generated or acquired from solar. ⁷⁴	Biomass, geothermal, solar, hydroelectric, wind. ⁷⁵
New Hampshire	By 2025: Class I – 16% Class II – 0.3% Class III – 6.5% Class IV – 1%. ⁷⁶	Class I: Wind, geothermal, hydrogen from biomass fuels or methane gas, ocean, methane gas biomass, solar hot water heating; Class II: New solar; Class III: Existing biomass and methane gas; Class IV: Existing small hydroelectric. ⁷⁷
New Jersey	By May 31, 2021: Solar REC – 2.12% Class I – 17.88% Class II – 2.50%. ⁷⁸	Class I: Solar, wind, fuel cells, geothermal, wave or tidal, methane gas from landfills or biomass facilities; Class II: Electric energy produced at a resource recovery facility or hydroelectric facility. ⁷⁹
New Mexico	Public Utilities: 20% by 2020. ⁸⁰	Solar, wind, geothermal,

70. MINN. STAT. § 216B.1691, subd. 2a (2007).

71. *Id.* § 216B.1691, subd. 1(a).

72. MONT. CODE ANN. § 69-3-2004(4)(a) (2007).

73. *Id.* § 69-3-2003(7).

74. NEV. REV. STAT. § 704.7821(1)(f)-(2)(a) (2007).

75. *Id.* § 704.7811(1).

76. N.H. REV. STAT. ANN. § 362-F:3 (2007).

77. *Id.* § 362-F:4(I)-(IV).

78. N.J. ADMIN. CODE § 14:8-2.3(a) (2007).

79. *Id.* §§ 14:8-2.5, -2.6; N.J. STAT. ANN. § 48:3-51 (2007).

80. N.M. CODE R. § 17.9.572.10(B) (Weil 2007).

81. *Id.* § 17.9.572.21(B).

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STATE	REQUIREMENT	ELIGIBLE SOURCES
	Rural Co-ops: 10% by 2020. ⁸¹	hydroelectric, fuel cells that are not based on fossil fuel, biomass. ⁸²
New York	24% by 2013. ⁸³	Biogas, biomass, liquid biofuel, fuel cells, hydroelectric, solar, ocean, wind. ⁸⁴
North Carolina	Public Utilities: 12.5% by 2021. ⁸⁵ Co-ops and Municipals: 10% by 2018. ⁸⁶	Solar, wind, hydroelectric, geothermal, ocean, biomass, waste heat from renewable sources, hydrogen from renewable sources. ⁸⁷
Oregon	Large Utilities: 25% by 2025. ⁸⁸ Small Utilities: 5-10% by 2025. ⁸⁹	Wind, solar, ocean, geothermal, biomass, hydroelectric, hydrogen from renewable sources. ⁹⁰
Pennsylvania	By 2020: Tier I – 8% ⁹¹ Tier II –10%. ⁹²	Tier I: Solar, wind, low-impact hydroelectric, geothermal, biologically derived methane gas, fuel cells, biomass, coal mine methane. ⁹³ Tier II: Waste coal, hydroelectric, municipal solid waste, biomass by-products. ⁹⁴
Rhode Island	16% by 2019. ⁹⁵	Solar, wind, ocean, geothermal, hydroelectric, biomass, fuel cells using renewable resources. ⁹⁶

82. *Id.* § 17.9.572.7(D).

83. STATE OF N.Y., PUB. SERV. COMM'N, CASE NO. 03-E-0188, PROCEEDING ON THE MOTION OF THE COMM'N REGARDING A RETAIL RENEWABLE PORTFOLIO STANDARD, at App. A (2005).

84. *Id.* at App. B.

85. N.C. GEN. STAT. § 62-133.8(b) (2007).

86. *Id.* § 62-133.8(c).

87. *Id.* § 62-133.8(a)(8).

88. Oregon Renewable Energy Act, 2007 Or. Laws 301 § 6(1)(d).

89. *Id.* § 7(2)-(3).

90. *Id.* § 4.

91. 73 PA. CONS. STAT. § 1648.3(b) (2007).

92. *Id.* § 1648.3(c).

93. *Id.* § 1648.2 (defining “Tier I alternative energy source”).

94. *Id.* (defining “Tier II alternative energy source”).

95. R.I. GEN. LAWS § 39-26-4(a) (2007); 90-060-015 R.I. CODE R. §§ 4.1-4.2 (Weil 2007).

96. R.I. GEN. LAWS § 39-26-5(a) (2007); 90-060-015 R.I. CODE R. § 5.1 (Weil 2007).

STATE	REQUIREMENT	ELIGIBLE SOURCES
Texas	5,880 MW by 2015. ⁹⁷ City Goals: Austin – 30% by 2020. ⁹⁸ San Antonio – 15% by 2020. ⁹⁹	Sun, wind, geothermal, hydroelectric, wave, tidal, biomass, biomass-based waste products, landfill gas. ¹⁰⁰
Washington	15% by 2020. ¹⁰¹	Hydroelectric, wind, solar, geothermal, landfill gas, ocean, sewage treatment gas, biodiesel fuel, biomass. ¹⁰²
Wisconsin	Requirement varies by utility; statewide goal of 10% by 2015. ¹⁰³	Fuel cells that use renewable fuel, tidal or wave action, solar, wind, geothermal, biomass, hydroelectric. ¹⁰⁴

An important element considered by most of the states with mandates is whether RECs can be used by a utility to satisfy its mandate. One objection to state and proposed federal mandates registered by utilities in certain regions of the country is that they do not have readily available to them the natural resources to generate power from renewable sources. Thus, the ability to use RECs for the purpose of satisfying mandates—especially in connection with the equities of a federal mandate—is a possible mitigating factor to those concerns.

A REC is a commodity representing the component of electricity that is produced from a renewable source: the environmental or “green” aspect of such power. Markets have been created resulting in the trading of RECs, which are sometimes referred to as “green tags.”¹⁰⁵ Below is a description of how states with mandates have dealt with the use of RECs:

97. TEX. UTIL. CODE ANN. § 39.904(a) (Vernon 2007); 16 TEX. ADMIN. CODE § 25.173(a)(1) (2007).

98. AUSTIN CITY COUNCIL RES. NO. 20070215-023, § 2(b) (Tex. 2007).

99. CPS ENERGY, RENEWABLE ENERGY, http://www.citypublicservice.com/content_listInternet.asp?cont_id=8477&elmt_id=12 (last visited Mar. 17, 2008) (CPS Energy is San Antonio's municipally owned natural gas and electric company).

100. TEX. UTIL. CODE ANN. § 39.904(d) (Vernon 2007); 16 TEX. ADMIN. CODE § 25.173(c)(16) (2007).

101. WASH. REV. CODE § 19.285.040(2)(a)(iii) (2007).

102. *Id.* § 19.285.030(18).

103. WIS. STAT. § 196.378(2)(a) (2002 & Supp. 2006).

104. *Id.* § 196.378(1)(h).

105. *See generally* EVOLUTION MARKETS LLC, RENEWABLE ENERGY, <http://www.evomarket.com/rec/> (last visited Mar. 17, 2008) (discussion of the trading market attributes of RECs); EDWARD A. HOLT, ET AL., WHO OWNS RENEWABLE ENERGY CERTIFICATES? AN EXPLORATION OF POLICY OPTIONS AND PRACTICE, (Laurence Berkeley National Laboratory, Univ. of Cal.) (2006); Petition For Declaratory Order And Request For Expedited Consideration, by Am. Ref-Fuel Co., Covanta Energy Group, Montanay Power Corp., and Wheelabrator Tech. Inc. FERC Docket No. EL 03-133-000, June 16, 2003.

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STATE	TREATMENT OF RECs
Arizona	An affected utility may transfer RECs to another party and may obtain RECs from another party. ¹⁰⁶ An affected utility may use RECs acquired in any year to meet its annual mandate. ¹⁰⁷
California	The California Public Utilities Commission (CPUC) may authorize by rule the use of RECs to satisfy the mandate. ¹⁰⁸ Such rules are in development. ¹⁰⁹
Colorado	RECs may be used by qualifying retail utilities. ¹¹⁰
Connecticut	Utilities may satisfy the requirements by purchasing certificates issued by the New England Power Pool Generation Information System, or by purchasing certain renewable energy from net producing residential customers. ¹¹¹
Delaware	Energy sold or displaced by customer-sited generation can create RECs for the purpose of compliance with the mandate. ¹¹²
District of Columbia	After January 1, 2006, suppliers may receive and accumulate RECs, which may be banked for three years. ¹¹³
Hawaii	An electric utility and its electric utility affiliates may aggregate their renewable portfolios to achieve the state's mandate. ¹¹⁴
Illinois	The renewable energy must be produced in Illinois. If cost-effective resources are not available in Illinois, it can be procured from adjoining states. If cost-effective resources are not available in Illinois or adjoining states, it can be purchased elsewhere and is counted towards compliance. After 2011, equal preference is given to resources located within Illinois and adjoining states. ¹¹⁵
Maine	The Maine Public Utilities Commission shall allow utilities to satisfy the mandate through RECs if the Maine Public Utilities Commission determines that a reliable system of electrical attribute trading exists. ¹¹⁶
Maryland	A supplier may meet the mandate by accumulating the equivalent amount of RECs that equal the mandate. ¹¹⁷
Massachusetts	RECs may be utilized, provided they do not exceed thirty percent of the annual requirement. ¹¹⁸
Minnesota	A utility may purchase sufficient RECs to meet the mandate. The

106. ARIZ. ADMIN. CODE § R14-2-1803(c) (2007).

107. *Id.* § R14-2-1804(c).

108. CAL. PUB. UTIL. CODE § 399.16 (West 2007).

109. CAL. PUB. UTIL. COMM'N, ONGOING POLICY IMPLEMENTATION, <http://www.cpuc.ca.gov/PUC/energy/electric/RenewableEnergy/ongoing.htm> (last visited Mar. 17, 2008).

110. COLO. REV. STAT. § 40-2-124(1)(d) (2007).

111. CONN. GEN. STAT. § 16-245a(b) (2007).

112. DEL. CODE ANN. tit. 26 § 355 (2007).

113. D.C. CODE §§ 34-1433(c), 34-1438 (2007).

114. HAW. REV. STAT. § 269-93 (2007).

115. 20 ILL. COMP. STAT. 3855/1-75(c)(3) (2007).

116. ME. REV. STAT. ANN. tit. 35-A, § 3210(8) (2007).

117. MD. CODE ANN., PUB. UTIL. COS. § 7-703(d) (West 2007).

118. 225 MASS. CODE REGS. 14.08(3) (2007).

STATE	TREATMENT OF RECs
	Minnesota Public Utilities Commission was obliged to establish a program for tradable RECs by January 1, 2008. ¹¹⁹
Montana	In order to meet the mandate, a utility may purchase electricity bundled with RECs or purchase the RECs separately, or any combination of the two. ¹²⁰
Nevada	Providers are allowed to use RECs under Nevada's System of Portfolio Energy Credits, which applies varying credit multipliers to each type of renewable energy. ¹²¹
New Hampshire	The New Hampshire Public Utilities Commission will establish a REC program. Unused RECs issued during the prior two years or the first quarter of the next year may be used to meet up to thirty percent of the mandate in the current year. ¹²²
New Jersey	A supplier meets the solar electric requirements through solar RECs, and a supplier may meet the Class I and II requirements through RECs. ¹²³
New Mexico	RECs are allowed to satisfy the mandate, and may be carried forward for up to four years from the date of creation. ¹²⁴
New York	The New York Public Utilities Commission has suggested that it supports the development of a certificates-based accounting and tracking system. ¹²⁵
North Carolina	Suppliers may satisfy the mandate by purchasing RECs. RECs from out-of-state facilities cannot be used to meet more than twenty-five percent of the mandate, unless the supplier has fewer than 150,000 customers in North Carolina. ¹²⁶
Oregon	RECs may be banked and carried forward indefinitely. Unbundled RECs may be used to meet only twenty percent of the requirements of the large utility mandate. Consumer-owned utilities may use unbundled RECs to meet up to fifty percent of the mandate. ¹²⁷
Pennsylvania	RECs are allowed, and may be banked for up to two years. ¹²⁸
Rhode Island	RECs may be used to comply with the mandate. ¹²⁹
Texas	RECs may be used to meet the mandate. RECs not used in the compliance period in which they were created can be banked for use in the

119. MINN. STAT. § 216B.1691, subd. 4(a) (2007).

120. MONT. CODE ANN. § 69-3-2004(7) (2007).

121. NEV. ADMIN. CODE § 704.8919 (2007).

122. N.H. REV. STAT. ANN. §§ 362-F:6, -F:7 (2007).

123. N.J. ADMIN. CODE §§ 14:8-2.3(c)-(f), -2.8 (2007).

124. N.M. CODE R. § 17.9.572.13 (Weil 2007).

125. STATE OF N.Y., PUB. SERV. COMM'N, CASE NO. 03-E-0188, PROCEEDING ON THE MOTION OF THE COMM'N REGARDING A RETAIL RENEWABLE PORTFOLIO STANDARD, at 38-42 (2005).

126. N.C. GEN. STAT. § 62-133.8(b)(2)(e) (2007).

127. Oregon Renewable Energy Act, 2007 Or. Laws 301 §§ 10, 14-18.

128. 73 PA. CONS. STAT. § 1648.3(e) (2007).

129. R.I. GEN. LAWS § 39-26-4(d) (2007); 90-060-015 R.I. CODE R. §§ 7.1-7.2 (Weil 2007).

130. TEX. UTIL. CODE ANN. § 39.904(b) (Vernon 2007); 16 TEX. ADMIN. CODE § 25.173(d),

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STATE	TREATMENT OF RECs
	next two compliance periods. ¹³⁰
Washington	Mandates may be met for any year with RECs produced during that year, the previous year, or the following year. ¹³¹
Wisconsin	Mandates may be used to establish compliance with the mandates. ¹³²

The ability of a utility to utilize RECs as a means of satisfying its mandate obligations is important because failure to satisfy the mandate may be costly. A summary of specific consequences of noncompliance is noted below:

STATE	IMPACT OF NONCOMPLIANCE
Arizona	The affected utility shall not recover the costs of meeting the shortfall in rates. ¹³³
California	CPUC may impose penalties pursuant to its general authority. ¹³⁴ The noncomplying utility may also be required to compensate for the shortfall in subsequent years. ¹³⁵
Colorado	The Colorado Public Utilities Commission may impose penalties for noncompliance. ¹³⁶
Connecticut	A penalty of up to 5.5 cents per kWh of deficiency. ¹³⁷
Delaware	Suppliers failing to meet the requirement must pay an alternative compliance payment ("ACP") of twenty-five dollars per MWh of deficiency to the Delaware Green Energy Fund to account for the shortfall. The ACP increases in subsequent years of noncompliance. ¹³⁸
District of Columbia	Suppliers failing to meet the requirements must pay to the District of Columbia Renewable Energy Development Fund: 2.5 cents per kWh of shortfall from required tier one sources, one cent per kWh of shortfall from required tier two sources, and thirty cents per kWh of shortfall from required solar energy sources. ¹³⁹
Hawaii	A utility failing to meet the mandate is subject to penalties as established by the Hawaii Public Utilities Commission (HPUC). ¹⁴⁰ The HPUC may

(k) (2007).

131. WASH. REV. CODE § 19.285.040(2)(e) (2007).

132. WIS. STAT. §196.378(3) (2002 & Supp. 2006).

133. ARIZ. ADMIN. CODE § R14-2-1815 (2007).

134. CAL. PUB. UTIL. CODE § 399.14(e) (West 2007).

135. *Id.* § 399.15(b)(4).

136. COLO. REV. STAT. § 40-2-124(1)(i) (2007).

137. CONN. GEN. STAT. § 16-243q(b) (2007).

138. DEL. CODE ANN. tit. 26 § 358(d) (2007).

139. D.C. CODE § 34-1434(c) (2007).

140. HAW. REV. STAT. § 269-92(c) (2007).

STATE	IMPACT OF NONCOMPLIANCE
	waive penalties if the failure is due to reasons beyond the utility's reasonable control, as statutorily defined. ¹⁴¹
Maine	Non-complying utilities may be required to make an alternative compliance payment to the Renewable Resource Fund. ¹⁴² The Maine Public Utilities Commission may also revoke the non-complying utility's license, or impose other monetary penalties and sanctions. ¹⁴³
Maryland	A non-complying supplier pays into the Renewable Energy Fund a compliance fee for each kWh of shortfall. ¹⁴⁴
Massachusetts	Non-complying suppliers are subject to penalties including publication of notice of non-compliance, requirement that the supplier submit a plan for achieving compliance for the next three years, and suspension or revocation of license. ¹⁴⁵ Suppliers may also pay an alternative compliance fee. ¹⁴⁶
Minnesota	The Minnesota Public Utilities Commission may order a non-complying utility to construct facilities, purchase renewable energy or RECs, or pay a financial penalty in an amount not to exceed the cost of compliance. ¹⁴⁷
Montana	Non-complying utilities pay a penalty of ten dollars per MWh of RECs that the utility failed to procure, to be deposited into a universal low-income energy assistance fund. ¹⁴⁸
Nevada	The Nevada Public Utilities Commission may impose a fine against a non-complying provider for each kWh by which the provider failed to comply with the mandate, and/or take other administrative action against the provider. ¹⁴⁹
New Hampshire	The New Hampshire Public Utilities Commission has the authority to assess fines, revoke the registration, and prohibit from doing business in the state, any supplier failing to meet the mandates. ¹⁵⁰ In lieu of complying, a provider may make an alternative payment to the New Hampshire Public Utilities Commission. ¹⁵¹
New Jersey	Failure to comply with the mandate may result in suspension or revocation of the supplier's license, financial penalties, disallowance of recovery of costs in rates, and prohibition on accepting new customers. ¹⁵² Suppliers

141. *Id.*

142. ME. REV. STAT. ANN. tit. 35-A, § 3210(9) (2007).

143. 65-407-311 ME. CODE R. § 7(C) (Weil 2007).

144. MD. CODE ANN., PUB. UTIL. COS. § 7-705(b) (West 2007).

145. 225 MASS. CODE REGS. 14.12 (2007).

146. *Id.* 14.08(3).

147. MINN. STAT. § 216B.1691, subd. 7 (2007).

148. MONT. CODE ANN. § 69-3-2004(10) (2007).

149. NEV. REV. STAT. § 704.7828 (2007); NEV. ADMIN. CODE § 704.8881(5) (2007).

150. N.H. REV. STAT. ANN. § 374-F:7(III) (2007).

151. *Id.* § 362-F:10(II).

152. N.J. ADMIN. CODE § 14:8-2.12(a) (2007).

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STATE	IMPACT OF NONCOMPLIANCE
	may submit alternative compliance payments in lieu of complying with the mandate. ¹⁵³
Oregon	Non-complying suppliers are subject to penalties and alternative compliance payments. ¹⁵⁴
Pennsylvania	The Pennsylvania Public Utilities Commission may impose alternative compliance payments upon non-complying suppliers, at a rate of forty-five dollars times the number of additional credits needed to comply with the mandate. ¹⁵⁵
Rhode Island	The Rhode Island Public Utilities Commission may impose sanctions including suspension and revocation of the non-complying supplier's license, as well as financial penalties. ¹⁵⁶ Suppliers may make alternative compliance payments. ¹⁵⁷
Texas	Non-complying utilities are subject to an administrative penalty of fifty dollars per MWh of deficiency. ¹⁵⁸
Washington	Non-complying utilities must pay an administrative penalty of fifty dollars per MWh of shortfall. ¹⁵⁹
Wisconsin	Any supplier violating the mandate is subject to a penalty of between \$5,000 and \$500,000. In determining the penalty amount, courts are to consider whether the violation was the result of circumstances beyond the supplier's control. ¹⁶⁰

Notwithstanding the penalties imposed on noncompliant utilities, many state mandates provide a "safety valve," exempting or mitigating the effects of noncompliance with the applicable mandate. The following summarizes certain specific exceptions:

STATE	NONCOMPLIANCE EXCEPTIONS
Arizona	Upon petition by an affected utility, the Arizona Corporation

153. *Id.* § 14:8-2.10.

154. Oregon Renewable Energy Act, 2007 Or. Laws 301 §§ 20, 22.

155. 73 PA. CONS. STAT. § 1648.3(f) (2007).

156. R.I. GEN. LAWS § 39-26-6(e) (2007); 90-060-015 R.I. CODE R. §§ 9.1-9.3 (Weil 2007).

157. R.I. GEN. LAWS § 39-26-4(e); 90-060-015 R.I. CODE R. § 7.3.

158. 16 TEX. ADMIN. CODE § 25.173(o) (2007).

159. WASH. REV. CODE § 19.285.060(1) (2007).

160. WIS. STAT. §196.378(5) (2002 & Supp. 2006).

STATE	NONCOMPLIANCE EXCEPTIONS
	Commission may waive compliance for “good cause.” The rules do not define “good cause.” ¹⁶¹
California	Utilities may be exempt if sufficient funds are unavailable. ¹⁶²
Colorado	The Colorado Public Utilities Commission may exempt a utility from administrative penalties if the utility demonstrates it has reached the stability defined “retail rate impact cap.” ¹⁶³
Delaware	The Delaware Public Service Commission may slow the scheduled percentage increases in the event that mandates have been difficult to meet despite adequate planning by suppliers. ¹⁶⁴
Hawaii	The HPUC may grant a waiver from the mandate or an extension for meeting a missed mandate. ¹⁶⁵
Illinois	Renewable energy is limited to “cost-effective renewable energy resources.” “Cost-effective” means that the costs of procurement do not exceed the limits stated in the statute. ¹⁶⁶
Maine	The Maine Public Utilities Commission may suspend scheduled mandate increases if the Maine Public Utilities Commission determines that investment in new renewable resources has not been sufficient for providers to meet the mandate and the result has burdened customers, or if the Maine Public Utilities Commission finds that alternative compliance payments have been made for three consecutive years. ¹⁶⁷
Maryland	If the actual or projected cost incurred by a supplier for the purchase of RECs derived from solar energy in any one year is greater than or equal to one percent of the supplier’s annual total revenues, the supplier may request a delay in the scheduled solar mandate increase. ¹⁶⁸
Massachusetts	The Massachusetts Division of Energy Resources has the power to suspend the annual increase. ¹⁶⁹
Minnesota	The Minnesota Public Utilities Commission may modify or delay the implementation of a requirement if the Minnesota Public Utilities Commission determines it is in the public interest to do so, considering statutory factors. ¹⁷⁰
Montana	A utility may petition for a short-term waiver from full compliance with the mandate and related penalties. ¹⁷¹
Nevada	If the Nevada Public Utilities Commission determines that there is not

161. ARIZ. ADMIN. CODE § R14-2-1816 (2007).

162. CAL. PUB. UTIL. CODE § 399.15(d) (West 2007).

163. COLO. REV. STAT. § 40-2-124(1)(i) (2007).

164. DEL. CODE ANN. tit. 26 § 354(c)-(d) (2007).

165. HAW. REV. STAT. § 269-94 (2007).

166. 20 ILL. COMP. STAT. 3855/1-75(c)(1)-(2) (2007).

167. ME. REV. STAT. ANN. tit. 35-A, § 3210(3-A) (2007).

168. MD. CODE ANN., PUB. UTIL. COS. § 7-705(e) (West 2007).

169. 225 MASS. CODE REGS. 14.07(2) (2007).

170. MINN. STAT. § 216B.1691, subd. 2b (2007).

171. MONT. CODE ANN. § 69-3-2004(11) (2007).

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STATE	NONCOMPLIANCE EXCEPTIONS
	or will not be a sufficient supply of electricity or a sufficient amount of energy savings pursuant to renewable energy contracts, it may exempt the provider, for that calendar year, from the mandate. ¹⁷²
New Hampshire	The New Hampshire Public Utilities Commission may accelerate or delay by up to one year any year's increase in Class I or II mandates, and, after 2012, may modify Class III and IV mandates to eighty-five to ninety-five percent of the expected potential annual output of available eligible resources upon a showing of good cause. ¹⁷³
New Mexico	Public utilities are not required to add renewable energy pursuant to the mandate above the "reasonable cost threshold" established by the New Mexico Public Utilities Commission. ¹⁷⁴ The mandate will be reduced as necessary to limit the kWh of renewable energy procured by a public utility for nongovernmental customers with consumption exceeding ten million kWh per year, so the additional cost does not exceed the statutory amounts. ¹⁷⁵
North Carolina	In developing rules, the North Carolina Public Utilities Commission is required to include a procedure to modify or delay the mandate requirements if the North Carolina Public Utilities Commission determines it is in the public interest. ¹⁷⁶
Oregon	Utilities are not required to comply with the mandate to the extent that, among other things, compliance would require the utility to acquire electricity in excess of the utility's projected load requirements. ¹⁷⁷ Utilities are not required to comply with the mandate to the extent that the cost of compliance exceeds four percent of the utility's annual revenue requirement. ¹⁷⁸
Pennsylvania	The mandate contains a "force majeure" clause, whereby the Pennsylvania Public Utilities Commission may modify or eliminate the mandate if it determines that alternative energy resources are not reasonably available in sufficient quantities in the marketplace. ¹⁷⁹
Rhode Island	By January 1, 2010, the Rhode Island Public Utilities Commission will determine the adequacy of renewable energy supplies to meet the percentage mandate increases. If the Rhode Island Public Utilities Commission finds the supplies are insufficient, it may delay the scheduled increase or recommend a revised schedule. ¹⁸⁰

172. NEV. REV. STAT. § 704.7821(6) (2007); NEV. ADMIN. CODE § 704.8883 (2007).

173. N.H. REV. STAT. ANN. § 362-F:4(V)-(VI) (2007).

174. N.M. CODE R. § 17.9.572.11 (Weil 2007).

175. *Id.* § 17.9.572.10(C).

176. N.C. GEN. STAT. § 62-133.7 (2007).

177. Oregon Renewable Energy Act, 2007 Or. Laws 301 § 8.

178. *Id.* § 6.

179. 73 PA. CONS. STAT. §§ 1648.2, 1648.3(a)(2) (2007).

180. R.I. GEN. LAWS § 39-26-6(d) (2007); 90-060-015 R.I. CODE R. § 4.4 (Weil 2007).

STATE	NONCOMPLIANCE EXCEPTIONS
Texas	The Texas Utilities Commission has “the authority to cap the price of renewable energy credits and may suspend the [mandate goal] if such suspension is necessary to protect the reliability and operation of the grid.” ¹⁸¹
Washington	A utility may be considered in compliance with the mandate “if events beyond the reasonable control of the utility that could not have been reasonably anticipated or ameliorated prevented it from meeting the [mandate].” ¹⁸²
Wisconsin	A supplier may request a delay for complying with the mandate. The Wisconsin Public Utilities Commission will grant the delay if it determines that, despite reasonable efforts, the supplier cannot meet the mandate for statutory requirements. ¹⁸³

Recognizing the demands on an already overburdened transmission grid from the transmission capacity needs resulting from the electricity generated by newly developed wind farms, the states of California, Colorado, Minnesota, New Mexico and Texas have enacted policies to support the distribution of the mandated power.¹⁸⁴

III. THE IMPACT

The wind and biofuels industries have each responded forcefully to the regime of federal and state incentives and mandates. To illustrate, below is a summary of the increases in installed United States wind capacity.¹⁸⁵

YEAR	INSTALLED CAPACITY (MW)
1999	2,500
2000	2,566
2001	4,261
2002	4,685
2003	6,374
2004	6,740

181. TEX. UTIL. CODE ANN. § 39.904(n) (Vernon 2007).

182. WASH. REV. CODE § 19.285.040(2)(i) (2007).

183. WIS. STAT. § 196.378(2)(e) (2002 & Supp. 2006).

184. CAL. PUB. UTIL. CODE §§ 379.5, 399.11(e), 399.14(a)(2)(B)-(C), 399.15(d), 399.25 (West 2007); COLO. REV. STAT. § 40-2-126 (2007); MINN. STAT. ANN. § 216B.2425, subd. 7 (2007); New Mexico Renewable Energy Transmission Authority Act, N.M. STAT. § 62-16A-1 to -15 (2007); TEX. UTIL. CODE ANN. §§ 36.053(d), 39.203(e), 39.904(g)-(k) (Vernon 2007).

185. U.S. DEP'T OF ENERGY, WIND POWERING AMERICA: INSTALLED U.S. WIND CAPACITY AND WIND PROJECT LOCATIONS, http://www.eere.energy.gov/windandhydro/windpoweringamerica/wind_installed_capacity.asp (last visited Mar. 20, 2008).

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2005	9,149
2006	11,575
2007	16,596

In addition, the geographic range of such projects has also increased. There were thirty-two states with wind energy projects in operation in 2007, up from thirteen states in 1999.¹⁸⁶

The United States ethanol industry has similarly increased its production capacity.¹⁸⁷

<u>YEAR</u> ¹⁸⁸	<u>NUMBER OF PLANTS</u>	<u>CAPACITY</u> ¹⁸⁹	<u>PLANTS UNDER CONSTRUCTION OR EXPANSION</u>	<u>CAPACITY UNDER CONSTRUCTION</u> ¹⁹⁰
1999	50	1,701.7	5	77
2000	54	1,748.7	6	91.5
2001	56	1,921.9	5	64.7
2002	61	2,347.3	13	390.7
2003	68	2,706.8	11	483
2004	72	3,100.8	15	598
2005	81	3,643.7	16	754
2006	95	4,336.4	31	1778
2007	110	5,493.4	76	5635.5
2008 (March 1)	134	7,229.4	77	6216.9

The geographic range of such facilities has also increased. There were twenty-six states with ethanol plants in 2007, up from seventeen states in 1999.¹⁹¹

United States wind and biofuel industries have reacted to the incentives and mandates as expected with a rapid growth in the number and locations of wind farms and biofuel facilities. However, to more completely understand the scope and potential impact of future wind energy and biofuel developments, it is helpful to review maps of resource potential, project locations and U.S. population distributions.¹⁹²

186. *Id.*

187. RENEWABLE FUELS ASSOC., ETHANOL INDUS. OVERVIEW, <http://www.ethanolrfa.org/industry/statistics/#EIO> (last visited Mar. 20, 2008).

188. Data as of January of that year, unless otherwise stated.

189. In million of gallons per year.

190. In million of gallons per year.

191. See RENEWABLE FUELS ASSOC., *supra* note 186. Biodiesel plants are also expanding in size and in number. See generally NAT'L BIODIESEL BD., FUEL FACT SHEETS, <http://www.biodiesel.org/resources/fuelfactsheets/> (last visited Mar. 20, 2008).

192. See generally PACIFIC NORTHWEST NAT'L LAB., WIND ENERGY RES. ATLAS OF THE

IV. THE REACTION

Alternative energy projects are not universally accepted by the communities in which they are proposed to be developed and operated. There is a clear trend of an increasing number of “not in my backyard” (NIMBY) outcries as the number and size of the projects expand and are located nearer to dense population regions or scenic recreational areas. Challenges to such projects now abound and are based on a variety of strategies: development moratoria, nuisance claims, environmental challenges, and avian death concerns. The balance of this article will provide a survey of common complaints being raised and of strategies being adopted by opponents to alternative energy projects.

A. Cape Wind

1. Background

No project better illustrates the clash between those claiming the environmental benefits and seeking the financial incentives of the development of alternative energy and the mechanics of achieving that renewable power than the project known as Cape Wind.¹⁹³ Cape Wind was proposed in 2001 and was originally designed to include 170 wind turbines located on an area encompassing twenty-six square miles on Horseshoe Shoal in Nantucket Sound.¹⁹⁴ The turbines would be sited more than three miles off the coast on the Outer Continental Shelf (OCS).¹⁹⁵

The developer of Cape Wind applied for two permits under section 10 of the Rivers and Harbors Appropriation Act of 1899 (Rivers and Harbors Act).¹⁹⁶ The first permit sought permission from the Army Corps of Engineers (Corps) to build a meteorological tower to be used

U.S., <http://rredc.nrel.gov/wind/pubs/atlas/> (last visited Mar. 20, 2008); NAT'L RENEWABLE ENERGY LAB., FIGURE 14. BIOMASS AND BIOFUELS RES. POTENTIAL, <http://www.eia.doe.gov/cneaf/solar/renewables/ilands/fig14.html> (last visited Mar. 20, 2008); NAT'L RENEWABLE ENERGY LAB., BIOMASS RES. AVAILABLE IN THE U.S., <http://www.nrel.gov/gis/images/biomass.jpg> (last visited Mar. 20, 2008). This data can be contrasted against a map of population density.

193. See generally Timothy A. Haden, Comment, *Reception on Nantucket Sound? A Summary of Current Offshore Wind Farm Litigation and a Federal Legislature Proposal Taking Cues from Cellular Tower Legislation*, 13 PENN. ST. ENVTL. L. REV. 217 (2005); Mike Koehler, Note, *Developing Wind Power Projects in Massachusetts: Anticipating and Avoiding Litigation in the Quest to Harness the Wind*, 12 SUFFOLK J. TRIAL & APP. ADV. 69 (2007).

194. Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of the Army, 288 F. Supp. 2d 64, 68 (D. Mass. 2003), *aff'd*, 398 F.3d 105 (1st Cir. 2005).

195. Ten Taxpayers Citizen Group v. Cape Wind Associates, L.L.C., 278 F. Supp. 2d 98, 99 (D. Mass. 2003), *aff'd*, 373 F.3d 183 (1st Cir. 2004).

196. 33 U.S.C. § 403 (2008). The permits were requested prior to the passage of the EPAct 2005, when the Corps had the sole jurisdiction with respect to developments on the OCS. See 33 C.F.R. §§ 302.2(b), 322.3(b)(2) (2007) (providing that artificial islands, structures, installations, and similar items require such permits under section 10 of the Rivers and Harbors Act).

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for five years to determine the wind resource and other feasibility issues related to the proposed location of the wind turbines. This permit was granted.¹⁹⁷ A second permit sought permission to construct and operate the proposed wind farm.

2. Impact of the EPAct 2005

The Outer Continental Shelf Lands Act (OCSLA)¹⁹⁸ at section 8 was amended by the EPAct 2005 to provide the Secretary of the Interior, acting through the Minerals Management Service (MMS), authority to issue non-oil and gas rights-of-way leases or easements.¹⁹⁹ Furthermore, the EPAct 2005 provided that the MMS is responsible for managing existing renewable energy projects located on the OCS.²⁰⁰

The EPAct 2005 required that the MMS develop a regulatory program for integrating new uses of the OCS with existing uses.²⁰¹ In that connection, the MMS determined that a programmatic environmental impact statement (PEIS) was required.²⁰²

3. Litigation

In opposition to the project, plaintiffs in *Ten Taxpayers Citizen Group v. Cape Wind Associates, L.L.C.* asserted that state approval was needed for construction of the 197-foot meteorological tower based on an argument that Congress had delegated authority over Nantucket Sound to the state of Massachusetts.²⁰³ The First Circuit affirmed the district court's dismissal of the plaintiff's claim, holding that under the OCSLA the federal government had the authority for granting approvals of the meteorological tower on the OCS, and that permission from the state of

197. *Ten Taxpayers*, 278 F. Supp. 2d at 99.

198. 43 U.S.C. §§ 1331-1356a (2006).

199. Energy Policy Act of 2005 § 388, 42 U.S.C.A. § 1337(p) (West 2007).

200. *Id.* In addition, renewable energy projects located on the OCS are subject to a number of federal laws. *See, e.g.*, Coastal Zone Management Act, 16 U.S.C. §§ 1451-1466 (2006); Clean Water Act, 33 U.S.C. §§ 1251-1274 (2006); Endangered Species Act, 16 U.S.C. §§ 1531-1544 (2006); Marine Mammal Protection Act, 16 U.S.C. §§ 1361-1423h (2006); National Environmental Policy Act, 42 U.S.C. §§ 4321-4730f (2006); National Historic Preservation Act of 1966, as amended, 16 U.S.C. §§ 470-470t (2006); Submerged Lands Act of 1953, 43 U.S.C. §§ 1301-1356a (2006); Rivers and Harbors Act of 1899, 33 U.S.C. §§ 401-467n (2006); Magnuson-Stevens Fishery Conservation and Management Act, *amended by* Sustainable Fisheries Act, 16 U.S.C. §§ 1801-1891d (2006); Migratory Bird Treaty Act ("MBTA"), as amended, 16 U.S.C. §§ 703-712 (2006).

201. Energy Policy Act of 2005 § 388.

202. The U.S. Department of Energy has estimated that more than 900,000 MW of potential wind energy exists off the coasts of the United States—near large population centers with limited land-based wind opportunities. *See* U.S. DEP'T OF THE INTERIOR, TECHNOLOGY WHITE PAPER ON WIND ENERGY POTENTIAL ON THE U.S. OUTER CONTINENTAL SHELF, MINERALS MANAGEMENT SERVICE, RENEWABLE ENERGY AND ALTERNATIVE USE PROGRAM 2 (2006), *available at* http://ocsenergy.anl.gov/documents/docs/OCS_EIS_WhitePaper_Wind.pdf.

203. *Ten Taxpayers Citizen Group v. Cape Wind Associates, L.L.C.*, 278 F. Supp. 2d 98, 99 (D. Mass. 2003), *aff'd*, 373 F.3d 183 (1st Cir. 2004).

Massachusetts was not required.²⁰⁴ The court specifically stated:

In our view the OSCLA leaves no room for states to require licenses or permits for the erection of structures on the seabed on the outer Continental Shelf. Congress retained for the federal government the exclusive power to authorize or prohibit specific uses of the seabed beyond three miles from the shore.²⁰⁵

In *Alliance to Protect Nantucket Sound, Inc. v U.S. Department of the Army*, another group of plaintiffs challenged the Corps' actual decision permitting the erection by Cape Wind of the meteorological tower.²⁰⁶ The plaintiffs specifically argued that (i) the Corps lacked authority under section 10 of the Rivers and Harbors Act; (ii) the Corps acted arbitrarily and capriciously in violation of the Administration Procedure Act²⁰⁷ because Cape Wind did not have a property interest in the OCS land on which it sought to build the meteorological tower when the permit was granted under section 10; and (iii) the Corps did not properly discharge its duties under the National Environmental Policy Act²⁰⁸ and evaluate the environmental impacts of the meteorological tower.

The district court rejected the plaintiff's arguments, finding that the OCSLA granted the Corps broad authority over the OCS, and that its authority extended beyond permitting structures intended to extract resources off the OCS.²⁰⁹ The appeals court also declined to find fatal the Corps' failure to circulate a draft of a Finding of No Significant Impact (FONSI) for public comment; despite the appellant arguing the meteorological tower was without precedent and therefore a FONSI was required. In rejecting that argument, the First Circuit deferred to the Corps' finding of precedent in other pile-supported structures in Nantucket Sound.²¹⁰ In that connection, however, the court observed that the actual wind energy project was not at issue in the case at hand.²¹¹

Challenges to the project have now moved to Cape Wind's installation of an underwater power line to transmit the electricity generated by the project to the on-shore transmission grid.²¹² State approval has been

204. *Ten Taxpayer Citizens Group v. Cape Wind Associates, L.L.C.*, 373 F.3d 183, 196, *cert. denied*, 543 U.S. 1121 (2005).

205. *Id.* at 196.

206. *Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of the Army*, 288 F. Supp. 2d 64, 68 (D. Mass. 2003), *aff'd*, 398 F.3d 105 (1st Cir. 2005).

207. 5 U.S.C. §§ 500-596 (2006); *see* 5 U.S.C. § 706 (2006) (setting forth the scope of review under the Administration Procedure Act).

208. 42 U.S.C. §§ 4321-4730f (2006).

209. *Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of the Army*, 398 F.3d 105, 108 (1st Cir. 2005).

210. *Id.* at 115; *see generally* 40 C.F.R. § 1501.4(e)(2) (2007).

211. *Alliance*, 398 F.3d at 107.

212. The Secretary of the Department of Environmental Affairs was subsequently sued by plaintiffs challenging the action.

obtained, but approval has not yet been obtained from the MMS.²¹³ Continuing the controversy, the Cape Cod Commission has denied Cape Wind's application for the transmission cables.²¹⁴

B. Development Moratoria

Development of wind projects on land is also not without controversy. One approach to the NIMBY conundrum has been the enactment of moratoria on wind farm development by local governments. Such disputes have been particularly acute in upstate New York, the region in which the highest profile case to date occurred.²¹⁵

The court in *Ecogen, L.L.C. v. Town of Italy* put it most succinctly: “[G]rowth [of wind farms] has not been universally welcomed. . . . As in *Don Quixote*, where one person sees a windmill, another sees a ‘monstrous giant’ looming over the countryside.”²¹⁶ In *Ecogen*, the developer of a wind farm sought relief from a moratorium imposed on the construction of wind farms or support facilities enacted by the town board of Italy, New York. The district court dismissed the developer's complaint, provided the town board enact a comprehensive zoning plan within ninety days of the court's decision.²¹⁷ In arriving at its ruling, the court did acknowledge that a moratorium must be of a reasonable duration, and that a moratorium can amount to an unconstitutional taking in violation of a landowner's due process rights.²¹⁸ The court also noted that there is no “bright-line” rule regarding the reasonableness of the length of a moratorium.²¹⁹

213. In connection with wind farms to be located on the OCS, the MMS has published a draft Programmatic Environmental Impact Statement, which, when finalized, will serve as a blueprint for obtaining MMS approval for wind projects located on the OCS. OCS ALTERNATIVE ENERGY AND ALTERNATIVE USE PROGRAMMATIC EIS INFORMATION CENTER, OCS ALTERNATIVE ENERGY DRAFT PROGRAMMATIC EIS DOCUMENTS, <http://ocsenergy.anl.gov/documents/dpeis/index.cfm> (last visited Mar. 24, 2008).

214. This is a local organization created by the State of Massachusetts and is involved with managing the growth of Cape Cod.

215. For example, moratoria were also enacted in the following New York communities: Tonawanda, Lyme, Allegany, Brandon and Clayton. See Kathy Kellog, *Forum on Wind-Energy Issues Seeks to Clear the Air*, BUFFALO NEWS, Aug. 15, 2007, at B3. Wind energy developments have also experienced similar opposition in Wisconsin. It is reported that three Wisconsin counties (Manitowoc, Shawano and Door) have enacted zoning ordinances that effectively preclude wind energy development. Another county, Trempealeau, has enacted a moratorium on wind farm development. Michael Vickerman, *Eliminate Roadblocks to Wind Power*, WIS. ST. J., Sep. 2, 2007, at C2; see also Joseph D'agnese, *Falling in Love with Wind: How a Small Farm Town Traded its Dairy Cows for Renewable Energy*, ONEARTH, June 22, 2007, at 14.

216. *Ecogen, L.L.C. v. Town of Italy*, 438 F. Supp. 2d 149, 151 (W.D.N.Y. 2006) (citation omitted).

217. *Id.* at 162-163.

218. *Id.* at 161 (citing *Bronco's Entertainment, Ltd. v. Charter Tp. of Van Buren*, 421 F.3d 440, 453 (6th Cir. 2005); *ASF, Inc. v. City of Seattle*, 408 F. Supp. 2d 1102, 1108-09 (W.D. Wash. 2005); *Q.C. Constr. Co. v. Gallo*, 649 F. Supp. 1331, 1337 (D.R.I. 1986), *aff'd*, 836 F.2d 1340 (1st Cir. 1987)).

219. *Id.* at 162 (citing *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Regional Planning Agency*, 535 U.S. 302, 342 (2002)).

Moratoria, however, are not always linked to blocking developments. Communities have also used moratoria to develop standardized procedures for permitting wind energy development.²²⁰ Moratoria can also be statewide: Idaho has had a statewide moratorium in place in an effort to determine how to effectively transmit the power generated from wind farms into the state's transmission grid.²²¹

C. Avian Issues

The threat of the killing of migratory birds by wind turbines has been one of the most active challenges to the siting of proposed wind farms in the United States. Environmentalists have brought suits against developers of wind farms in connection with their assertions that the proposed project will result in massive bird deaths.

In *Flint Hills Tallgrass Prairie Heritage Foundation, Inc. v. Scottish Power, P.L.C.*, a class action was brought seeking equitable relief for, inter alia, violations of the Fifth and Ninth Amendments of the U.S. Constitution, and of the Migratory Bird Treaty Act (MBTA).²²² No federal or state parties were included in the lawsuit. The plaintiff sought relief against a proposed wind farm that would allegedly cause permanent and irreparable damage to the Flint Hills regional environmental system. The district court concluded and the Tenth Circuit affirmed that the requisite "color of state action" was not created by the state tax incentives received by the defendant.²²³ The court also faulted the plaintiff's failure to state a claim under the MBTA, and held further that the court lacked equitable jurisdiction.²²⁴

In *Center for Biological Diversity v. FPL Group, Inc.*, suit was brought against wind farm operators on the basis of alleged violations of California's unfair competition law and California's public trust doctrine.²²⁵ The plaintiff alleged that the defendants had killed thousands of birds in violation of the MBTA, that the killings constituted an unfair business practice, and that the birds were part of the public trust, and hence constituted public property. The lawsuit was dismissed with the

220. See Susan Squires, *Worries In the Wind for Calumet*, APPLETON POST-CRESCENT, Aug. 4, 2006.

221. See IDAHO PUB. UTILITIES COMM'N, CASE NO. IPC-E-06-21 (2006), FINAL ORDER, available at http://www.puc.idaho.gov/internet/cases/elec/IPC/IPCE0621/ordnotc/20070829FINAL_ORDER_NO_30414.pdf; see Betsy Z. Russell, *Change in the Wind Possible for Idaho; After Moratorium, Turbines Hold Promise*, SPOKANE SPOKESMAN-REV., July 8, 2007.

222. *Flint Hills Tallgrass Prairie Heritage Found., Inc. v. Scottish Power, P.L.C.*, No. 05-1025-JTM, 2005 WL 427503, at *1 (D. Kan. Feb. 22, 2005), *aff'd*, 147 F. Appx. 785 (10th Cir. 2005).

223. *Id.*

224. There is no private right of action in the MBTA. *Id.* (citing *Ctr. for Biological Diversity v. Pirie*, 201 F. Supp. 2d 113, 117 (D.D.C. 2002)).

225. Complaint at 3, *Ctr. for Biological Diversity, Inc. v. FPL Group, Inc.*, No. RG04183113 (Cal. Super. Ct., Alameda County filed Nov. 1, 2004).

court finding that the birds did not meet the “lost property” standing requirement in connection with the unfair competition claim.²²⁶ Dismissal was also obtained on the public trust claim, with the court holding that actions pursuant to California’s public trust doctrine must be related to navigable waters and tidelands.²²⁷

Kerncrest Audubon Society v. City of Los Angeles Department of Water and Power is another example of a failed challenge brought against a proposed wind farm.²²⁸ In the case, the proposed project was a 120 MW facility in the southern Sierra Nevada Mountains. The California Board of Water and Power Commissioners approved the Final Environmental Impact Report (FEIR). The plaintiff argued, however, that the FEIR did not adequately consider the impact of the wind farm on nocturnally migrating songbirds.

The court dismissed the plaintiff’s concerns, as it was impressed by daytime surveys conducted by an expert for the developer, indicating that a nighttime radar survey was not required. The developer’s actual data from the proposed site was found more persuasive than comparisons by the plaintiff to avian mortality rates at existing unrelated facilities.²²⁹

Wind energy developers need to consider that, unlike other wildlife protection statutes such as the Bald and Golden Eagle Protection Act²³⁰ and the Endangered Species Act,²³¹ the MBTA does not have an incidental taking provision. Therefore, there is no safe harbor for unintended killings of protected species. As noted in *Flint Hills*, however, the MBTA does not provide a private right of action.²³² To date, the federal government has not taken an enforcement action against a wind farm developer under the MBTA.²³³

While *Kerncrest Audubon* provides a useful guide to wind farm developers as to measurement and mitigation of avian deaths, there are efforts to attempt to define an acceptable standard in the area. The U.S. Fish and Wildlife Service has established a Wind Turbine Advisory Group, tasked with recommending ways to centralize federal oversight and also coordinate state and federal regulation of proposed wind energy

226. Dismissal Order at 13-14, *Ctr. for Biological Diversity, Inc. v. FPL Group, Inc.*, No. RG04183113 (Cal. Super. Ct., Alameda County dismissed Oct. 12, 2006).

227. *Id.* at 15-16.

228. *Kerncrest Audubon Soc’y v. City of Los Angeles Dep’t of Water and Power*, No. F050809, 2007 WL 2208806 (Cal. Ct. App. Aug. 2, 2007).

229. *Id.* at *4. The court provides instructive discussion on procedures for wind farm developers to follow in addressing avian mortality concerns. *See id.*

230. 16 U.S.C. §§ 668-668d (2006).

231. 16 U.S.C. §§ 1531-1544 (2006).

232. *Flint Hills Tallgrass Prairie Heritage Found., Inc. v. Scottish Power, P.L.C.*, No. 05-1025-JTM, 2005 WL 427503, at *1 (D. Kan. Feb. 22, 2005), *aff’d*, 147 F. Appx. 785 (10th Cir. 2005).

233. *But see Ctr. for Biological Diversity v. Pirie*, 191 F. Supp. 2d 161, 175 (D.D.C. 2002) (APA challenge to governmental inaction under MBTA).

developments.²³⁴ In addition, the California Energy Commission has published draft guidelines for reducing impact to birds and bats from wind energy developments.²³⁵

D. Nuisance Issues

When the neighbors of proposed or operational wind farms complain about the undesirable effects of 400-foot tall wind turbines, the noise emitted by the machines is usually near the top of their list. Other prominent complaints include the visual effects of the wind turbines, including scenery disruption, the strobing effect of sunlight passing through moving blades, and the alleged resultant diminution of nearby property values.

Most developers and municipalities try to mitigate noise problems in the planning phase by establishing setback distances. Setbacks mandate the minimum distance between the installed turbines and other types of land use such as homes or schools. Moreover, prudent developers conduct and retain pre-development sound analyses to forecast the intensity of sound that will be audible at certain distances away from the wind turbines. To aid in these efforts, the Renewable Energy Research Laboratory at the University of Massachusetts has developed detailed noise standards that developers can use in assessing the relative sound levels of their projects.²³⁶

By all accounts, modern wind turbines are significantly quieter (but generally larger) than those built with older technology. However, neighbors of newer facilities continue to complain about the noise being produced. In the first two and a half months after a 28-turbine wind farm in Mars Hill, Maine began operations in December 2006, ten neighbors filed complaints with the Maine Department of Environmental Protection about excessive noise from the facility.²³⁷ The complaints were that noise from the windmills interfered with the quiet they associated

234. See *Wind Energy Development and Impacts to Fish and Wildlife Resources: Hearing Before the Subcomm. on Fisheries, Wildlife, and Oceans of the H. Comm. on Natural Resources*, 110th Cong. (May 1, 2007) (statement of H. Dale Hall, Director, U.S. Fish and Wildlife Service).

235. CAL. ENERGY COMM'N, STATE GUIDELINES FOR REDUCING IMPACTS TO BIRDS AND BATS FROM WIND ENERGY DEV., REPORT NO. CEC-700-2006-013-SD (2006), available at <http://www.energy.ca.gov/2006publications/CEC-700-2006-013/CEC-700-2006-013-SD.pdf>; see generally John Arnold McKinsey, *Regulating Avian Impacts Under the Migratory Bird Treaty Act and Other Laws: The Wind Industry Collides with One of Its Own, the Environmental Protection Movement*, 28 ENERGY L.J. 71 (2007) (providing a thorough analysis of the challenges facing the wind energy industry in connection with avian issues).

236. ANTHONY L. ROGERS, JAMES F. MANWELL, & SALLY WRIGHT, RENEWABLE ENERGY RESEARCH LAB., UNIV. OF MASS. AMHERST, WIND TURBINE ACOUSTIC NOISE (2006), available at http://www.ceere.org/rerl/publications/whitepapers/Wind_Turbine_Acoustic_Noise_Rev2006.pdf

237. Jenna Russell, *An Idyll Lost in Turbines' Humming: Neighbors Regret Maine Wind Farm*, BOSTON GLOBE, Feb. 17, 2007, at 1A.

with their rural settings, and on particularly windy days, the noise was so loud it allegedly disrupted their sleep.²³⁸ In response to the complaints, the Maine Department of Environmental Protection ordered the project's owners to analyze the level of project noise. The report found isolated noise levels slightly in excess of the levels projected in the planning phase.²³⁹

In addition to the regulatory oversight at Mars Hill, neighbors of two other wind farms (one operational, the other proposed) filed lawsuits claiming that the undesirable effects of the windmills—primarily the noise they make—violated state nuisance laws.

The Horse Hollow wind farm consists of 421 wind turbines sited on 47,000 acres of land southwest of Abilene, Texas.²⁴⁰ Some of the project's neighbors sued the project owner for violating the state's nuisance law.²⁴¹ A pre-trial ruling by the judge in the case limited the plaintiffs to only presenting evidence of the noise associated with the windmills. After a trial on the merits, the jury found that the facility did not constitute a common law nuisance.²⁴²

In *Burch v. Nedpower Mount Storm, L.L.C.*, the neighbors of a proposed 200-turbine wind farm in Grant County, West Virginia did not wait for the facility to be constructed before assessing whether it constituted a nuisance.²⁴³ Instead, they filed a lawsuit against the developer alleging that the planned wind farm would be a private nuisance under state law and asked the court to enjoin its construction. The Grant County Circuit Court granted the motion of the defendants to dismiss the plaintiff's claim on the pleadings.²⁴⁴ The West Virginia Supreme Court, however, reversed that decision and remanded the matter for a trial.²⁴⁵

The appellate court's decision centered around two primary findings. First, it held that judicial review of a wind power facility under a nuisance theory did not encroach upon the statutory jurisdiction of West Virginia's Public Utilities Commission (WVPUC), which had already issued a

238. *Id.* Settings away from population centers are thus not immune from complaints.

239. RESOURCE SYSTEMS ENG'G, SOUND LEVEL STUDY: AMBIENT & OPERATIONS SOUND LEVEL MONITORING; ME. DEP'T OF ENVTL. PROTECTION ORDER NO. L-21635-26-A-N 43 (2007), available at <http://www.windaction.org/documents/10319> (follow "Mars Hill Sound Study w Appendices.pdf" hyperlink).

240. Bill Hanna, *Wind-Power Push Raising Ire: Concerned Homeowners File Suit Amid Drive for Renewable Energy*, FORT WORTH STAR-TELEGRAM, Nov. 26, 2006, at A20.

241. Jerry Daniel Reed, *Lawyer Ponders Next Step in Anti-Wind Turbine Case*, ABILENE REP.-NEWS, Dec. 21, 2006, available at <http://www.reporternews.com/news/2006/dec/21/lawyer-ponders-next-step-in-anti-wind-turbine/>.

242. *Id.*

243. *Burch v. Nedpower Mount Storm, L.L.C.*, 647 S.E.2d 879, 885 (W. Va. 2007).

244. *Id.* at 884.

245. *Id.* at 895.

permit for the project.²⁴⁶ The court noted that the rights of the neighbors surrounding commercial wind farms are not among the statutory factors the WVPUC considers in the permitting of such facilities. The court reasoned that if the WVPUC process preempted nuisance claims, neighbors would be left without any remedy for their common law right to enjoy their property.²⁴⁷ Second, the court held that, in pursuing a prospective nuisance claim, plaintiffs could introduce evidence of the disruption that would be caused by the turbine's noise, as well as disruptive visual effects and related diminution in property value.²⁴⁸ The Horse Hollow project and *Burch* thus illustrate the impact on how state laws vary in the treatment of landowner rights.

While there is no evidence that nuisance lawsuits hold the potential to stem the tide of wind farm development across the country, there appears at least a reasonable chance that such claims could become a serious disruption and certainly an added expense to wind power developers. The West Virginia Supreme Court ruling in *Burch* is particularly noteworthy because it is an example of a court authorizing a pre-construction cause of action against a wind farm developer for common law nuisance. This illustrates how wind power developers face the prospect of litigation about potential disruption caused by their facilities before construction commences. If neighbors lose a claim for a pre-construction injunction, it is doubtful that they would be foreclosed from filing a similar post-construction claim for injunctive relief and damages based on the actual noise and visual disruptions caused by the operational wind farm.

The *Burch* court's decision to allow evidence of visual disturbances and diminution in property value hinged on the allegation of a claim of noise nuisance. In explaining its holding, the court noted that, under West Virginia law, unwanted noise alone could constitute a nuisance while uninvited visual distractions and diminution in property value were not sufficient on their own to support a nuisance claim.²⁴⁹ Where the plaintiff has alleged a noise nuisance, however, evidence relating to visual distractions and diminution in property values are admissible to support the claim.²⁵⁰

E. Environmental Challenges for Biofuels

Biofuels offer the potential benefits of reducing the country's dependence on foreign oil and reducing vehicular air pollution.

246. *Id.* at 889.

247. *Id.*

248. *Id.* at 892-94.

249. *Id.* at 891-92.

250. *Id.* at 892.

However, production and use of biofuels is not without its environmental challenges, such as: air emissions issues, water consumption, degradation of farmland, and surface water contamination.

1. Air Quality

The production of ethanol creates volatile organic compounds that can contribute to air quality issues if not properly remediated at the plant. The U.S. Environmental Protection Agency (EPA) issued a rule increasing from 100 tons to 250 tons the amount of nitrous oxide, sulfur dioxide and other pollutants that can be emitted in the ethanol production process before the plant is classified as a “major emitter.”²⁵¹ However, the EPA’s rule has been challenged,²⁵² and as a result, its near-term benefits to ethanol producers are unclear.²⁵³

Local opponents to ethanol facilities have also challenged proposed ethanol plants through air pollution claims.²⁵⁴ This type of litigation delays the permitting abilities of proposed plants and may adversely affect their financing opportunities.

2. Water Consumption and Pollution

Iowa is the nation’s largest producer of ethanol.²⁵⁵ Ethanol producers reportedly use seven percent of Iowa’s total water consumption, an amount expected to double by 2012.²⁵⁶ As ethanol plants expand out of the Midwest and into drier areas, water consumption will undoubtedly become a bigger problem.

Another environmental concern is that U.S. ethanol production typically uses corn as the feedstock. Corn can require large amounts of chemical fertilizers. Environmentalists have raised concerns that the runoff of such fertilizers will increase as more corn is planted.²⁵⁷ Concerns have also been expressed that if farmers reduce annual crop rotation and focus solely on corn production, additional fertilizers will be required thereby compounding the runoff issues.

251. See 42 U.S.C. § 7479(1) (2006) (defining “major emitting facility”); Brian Hansen, *Emissions Rule for Ethanol Plants Draws Legal Challenge From NRDC*, INSIDE ENERGY, July 9, 2007, at 4i.

252. Hansen, *supra* note 250; Nancy Gaarder, *Higher EPA Cap May Mean Larger Ethanol Plants*, OMAHA WORLD-HERALD, Apr. 13, 2007, at 1A.

253. Gaarder, *supra* note 251.

254. See, e.g., Ted Jackovics, *Ethanol Firm’s Lease Extended*, TAMPA TRIB., Aug. 22, 2007, at 5.

255. NEB. ENERGY OFFICE, ETHANOL PROD. CAPACITY BY STATE (2008), <http://www.neo.ne.gov/statshhtml/121.htm>.

256. Perry Beeman, *Water Use: Biofuel Plants’ Thirst Creates Water Worries*, DES MOINES REG., June 3, 2007, at 5E.

257. See generally Margaret Kriz, *Corn Power*, NAT’L J., Apr. 14, 2007, at 24.

3. Legal Challenges

Lawsuits challenging ethanol facilities are occurring in various regions of the country, many led by coalitions of citizens groups.²⁵⁸ Such claims have focused on arguments pertaining to zoning issues and the need for formal environmental impact statements.²⁵⁹

4. Food Versus Fuel Debate

The increase in the RFS by EISA has come under strong criticism as significantly contributing to higher corn and food prices. Critics of the RFS have been vocal at the state and federal level. For example, Governor Perry of Texas has sought a fifty percent waiver of the RFS through 2012, alleging a negative impact on the economy of Texas as a result of the increased price of corn.²⁶⁰ Supporters of the RFS are equally vocal and cite their position as to the positive impact of the RFS on the ethanol industry (and the resultant benefits to energy independence and reductions in global warming), dismissing the RFS as a material cause of the increase in corn and food prices.²⁶¹

At this time it is unclear if the RFS will be reduced. An increased focus on non-corn starch based biofuels is likely, however. For example, the 2008 Farm Bill provides that a producer of cellulosic ethanol and other cellulosic biofuels is entitled to a tax credit of \$1.01 per gallon as to fuel produced before July 1, 2013 and after December 31, 2008.²⁶²

F. Miscellaneous Impediments

Challenges to an industry can often come from unexpected sources. With ethanol, one challenge lies in the decision by Underwriter's Laboratories, Inc. (UL) to suspend authorization for manufacturers to use UL markings (listing or recognition) on components used for dispensing ethanol-blended fuel in excess of fifteen percent alcohol.²⁶³

258. See Joe Barrett, *Ethanol Reaps a Backlash in Small Midwestern Towns*, WALL ST. J., Mar. 23, 2007, at A1; Covina Curry, *Neighbors Sue Wright Partners for "Breach of Contract,"* ROCKFORD REG. STAR, Sept. 19, 2007.

259. See Barrett, *supra* note 257; see Tim Moran, *Lawyer Sues Over Plans for Keyes Ethanol Plant: Environmental Report Sought for Keyes Plant*, MODESTO BEE, Aug. 11, 2007, at B1.

260. W.Gardner Selby and Jason Embry, *Perry Asks Washington to Waive Ethanol Mandate*, AUSTIN AMERICAN-STATESMAN, April 26, 2008, available at <http://www.statesman.com/news/content/news/stories/local/04/26/0426corn.html>.

261. *Food Prices and Small Business: Hearing Before the H. Comm. On Small Business*, 110th Cong. (2008) (statement of Bob Dinneen, President & CEO, Renewable Fuels Association), available at <http://www.house.gov/smbiz/hearings/hearing-05-15-08-food-prices/Dinneen.pdf>.

262. I.R.C. § 40(b)(6)(2008).

263. Underwriters Laboratories, Inc., *Fuel Dispenser Components Containing Ethanol & Other Alcohol Blended Fuels*, <http://www.ul.com/gasandoil/ethanol.html> (last visited Mar. 29, 2008).

264. E85 is a blend of gasoline with 85% ethanol.

265. See Alexei Barrionuevo, *Ethanol Could Corrode Pumps, Testers Say*, N.Y. TIMES, Oct. 27,

The UL's concern is that higher levels of alcohol could have a corrosive effect on the dispensing devices being used.

UL's decision had an immediate impact on E85 ethanol.²⁶⁴ Many local building codes require UL approval, thus inhibiting the expansion of retail E85 distribution facilities. For example, British Petroleum reportedly suspended E85 distribution at United States retail distribution facilities until E85 dispensing devices obtain UL certification.²⁶⁵

Wind energy is not immune to unexpected hurdles. The National Defense Authorization Act for Fiscal Year 2006²⁶⁶ required the U.S. Department of Defense to study and report on the adverse effects that wind energy projects may have on military readiness.²⁶⁷ The mandated report, issued on September 28, 2006 by the Office of the Director of Defense Research, was supportive of the development of wind farms, but determined that wind farms located within the radar line of sight of an air defense system did have the ability to degrade the radar's performance.²⁶⁸

²⁶⁸The report also deferred to the Federal Aviation Authority and the National Weather Service as to matters relating to their functions.

V. CONCLUSION

Legislative efforts to expand the development and use of alternative energy are achieving their goals. However, a growing trend of organized resistance to many of the projects has resulted from that success. Such resistance has created a conflict among groups equally certain of their personal commitments to environmental concerns and preventing climate change. Fuel and power demands continue to increase dramatically, only adding to the problem. Growth in transmission of "green power" and expanded logistics for biofuels are also creating their own organized adversaries.

Increasing efficiencies and decreasing consumption on a relative basis are gaining momentum. National solutions such as a cap and trade program and the Department of Energy's National Corridor Designation for the expansion of the electrical transmission grid are likely to be proposed. Nevertheless, regional resources and opportunities differ across the nation and no simple solution should be expected to end the controversies.

2006, at C10; see also Peter Rohde, *UL Pumps Survey in Brazil Finds No E-85 Safety Maintenance Problems*, ENERGY WASHINGTON WEEK, June 6, 2007.

²⁶⁶ National Defense Authorization Act for Fiscal Year 2006, Pub. L. No. 109-163, 119 Stat. 3136.

²⁶⁷ *Id.* at §358. The report was not issued by the mandated May 8, 2006 deadline and the delay in issuing the report effectively halted wind farm development within the radar line of sight of any military radar.

²⁶⁸ See U.S. DEP'T OF DEFENSE, REPORT TO THE CONGRESSIONAL DEFENSE COMM., EFFECT OF WINDMILL FARMS ON MILITARY READINESS 56-57 (2006), available at <http://www.defenselink.mil/pubs/pdfs/windfarmreport.pdf>.