COMMENTS

WIND ENERGY PRODUCTION COMPENSATION SCHEME: OIL-LIKE ROYALTIES OR OYSTER-LIKE RENT?

I. INTRODUCTION

As the United States embraces political, social, and environmental encouragement to seek cleaner energy alternatives, state legislatures should consider the fundamental differences between non-renewable energy resources and renewable energy resources. In particular, they should focus on the traditional purposes of the royalty-compensation scheme in the oil and gas realm and the logical effects of imposing royalties on renewable energy development as opposed to oil extraction. With that basis, legislatures should adopt a fixed-compensation scheme for renewables.

Currently, finite resources that are detrimental to the environment meet the majority of our nation's energy needs. As such, it is imperative that legislatures prioritize the use of alternative energy sources, particularly by creating laws that ensure that energy alternatives can be practically implemented into federal, state, and local frameworks. This requires an understanding of the three issues that largely motivate the movement toward alternative energy production in the United States. First, scientists are concerned by the anthropogenic causes of global warming. For instance, the Intergovernmental Panel on Climate Change notes that the current rate of warming is historically unmatched.[1] This increase in temperature raises

1. T. Barker et al., 2007: IPCC, 2007: Summary for Policymakers. *Climate Change 2007: The Physical Science Basis. Contributions of Working Group I to the Fourth Assessment Report of the Intergovernment Panel on Climate Change* 6 (S. Solomon, et al. eds., 2007), *available at* http://www.ipcc.ch/pdf/assessment-

the specter of higher sea levels and increased storm intensity.

Second, individuals and governments alike express grave concern for what they believe to be an impending energy crisis.[2] Some suggest that the demand for energy will soon soar due to the gross economic development in many nations.[3] It follows that reliance on finite resources will eventually fail to meet energy demands. Further, this impending energy threat increases the extent of reliance on foreign fuel. However, the political, economic, and social instability present in the middle-eastern fuel-providing countries has caused interest in alternative energy sources to skyrocket over the past few years.[4] Some are satisfied that natural gas is the answer to any such energy problem; however, others continue to support progress toward renewable energy, which is more environmentally friendly over the long-term than natural gas.[5]

Third, there is a current demand for the exploration of more economically feasible energy sources. While the initial expenses associated with creating the appropriate infrastructure and mechanisms for producing alternative energy are quite high, the maintenance of the alternative sources is actually far less costly than that of traditional energy resources.[6] Moreover, the

report/ar4/wg1/ar4-wg1-spm.pdf ("The linear warming trend over the last 50 years . . . is nearly twice that of the last 100 years.") .

2. K.K. DuVivier, *Animal, Vegetable, Mineral—Wind? The Severed Wind Power Rights Conundrum*, 49 WASHBURN L.J. 69, 70 (2009); Elizabeth A. Ransom, *Wind Power Development on the United States Outer Continental Shelf: Balancing Efficient Development and Environmental Risks in the Shadow of the OCSLA*, 31 B.C. ENVTL. AFF. L. REV. 465, 466 (2004) ("This looming energy crisis has focused public attention on the development of the other sources of clean, affordable, and most importantly, renewable energy.").

3. David J. Jhirad, *An Energy Policy for the 21st Century*, 28 CAN.–U.S. L.J. 315, 317 (2002).

4. *See generally* Ransom, *supra* note 2; *see* Patricia E. Salkin & Ashira Pelman Ostrow, *Cooperative Federalism and Wind: A New Framework for Achieving Sustainability*, 37 HOFSTRA L. REV. 1049, 1050-51 (2009); *see* J.R. MCNEILL, SOMETHING NEW UNDER THE SUN: AN ENVIRONMENTAL HISTORY OF THE TWENTIETH-CENTURY WORLD 51 (W.W. Norton & Co. 2000) (2000).

5. The initial infrastructure construction and development will create some environmental cost; however, in the long run, the overall environmental cost will be less than that caused by non-renewable sources.

6. The cost of pieces for creation are quite high. *Community Wind Toolbox Chapter 8: Cost Associated With Community Wind Development*, WINDUSTRY, http://www.windustry.org/your-wind-project/community-wind/community-wind-toolbox/chapter-8-costs/community-wind-toolbox-chapt (last visited Apr. 5, 2012) ("[T]urbine and tower are the largest expenses associated with developing a [wind]

domestic nature of the renewable energy sources will likely decrease the inconsistent cost of energy.[7]

The available alternative sources of energy include mainly wind, solar, and water (wave). Each option provides an environmentally friendly, domestic, and economically efficient alternative to the traditional energy sources. Of these options, wind-generated energy is the most environmentally friendly method of energy production, as it emits almost no harmful byproducts.[8] Currently, wind energy provides approximately 2.3% of electricity needs in the United States.[9] However, scientists estimate that the nation's wind power potential is 37 trillion kilowatt hours of electricity annually, which is ten times the current energy demand.[10] This statistic attests to the fact that wind energy provides a viable alternative to traditional energy sources. In addition, the cost of wind energy production facilities is declining as technology improves, rendering wind energy one of the most affordable methods of alternative energy generation.[11]

While producing usable energy from wind is the most environmentally friendly way to generate clean energy,[12]

project."). "Current commercial turbines range in price from $1.1 to $1.7 million per MW." *Id.* Moreover, installation includes a foundation, wiring to the turbine base, and turbine erection. *Id.* However, once the wind project installation is complete, the expense is much reduced. *Id.* Although periodic care must be taken, operation and maintenance services range from $10,000 to $40,000 per year per turbine. *Id.* Thus, the operation and maintenance costs are far lower than initial installation and equipment costs. The opposite is true in the oil and gas context, where annual operating costs exceed installation and equipment costs. *Oil and Gas Lease Equipment and Operating Costs 1994 Through 2009*, U.S. ENERGY INFO. ADMIN. (Sept. 28, 2010), http://www.eia.gov/pub/oil_gas/natural_gas/data_publications/cost_indices_equipment_production/current/coststudy.html. The logical conclusion is that, in the long term, wind is the winner.

7. Of course, there is a strong argument that natural gas can solve the problem of reliance on foreign fuel. However, natural gas, like oil, is finite. Although the depletion of natural gas will not be problematic for decades, it is not an infinite source so it can serve only as a resource to fill the gap between coal and oil and renewable sources. Moreover, it does not reduce all pollution problems.

8. DuVivier, *supra* note 2, at 70.

9. *U.S. Department of the Interior, Bureau of Land Management*, Wind Energy, http://www.blm.gov/wo/st/en/prog/energy/wind_energy.html (last visited June 17, 2012).

10. *Id.*

11. *Id.*

12. In terms of low emissions at the point of production.

individuals and governments often vehemently oppose proposals for onshore wind farms.[13] Typically these onshore-wind-farm opponents argue that the noise created by turbine rotation, the lack of aesthetic appeal, and the "flicker" effect created by the wind farms are nuisances.[14] Moreover, the large area needed to build effective wind farms poses a serious space-efficiency problem.[15] The United States could simultaneously sidestep the issues associated with onshore wind farms and benefit from clean wind energy by pursuing offshore wind projects. Other nations, namely Denmark and the United Kingdom, are efficiently using offshore wind capacity.[16] However, the United States has yet to embrace significant wind energy potential offshore.[17] This hesitation might be attributable to the obstacles associated with offshore wind energy production, including complications inherent in transporting the energy produced, difficulties in developing appropriate guidelines for offshore wind production, and general resistance from the oil and gas companies currently operating offshore.[18] Nonetheless, facilitating the investigation and production of offshore wind energy would greatly benefit the nation, especially considering the number of coastal states in the

13. Salkin & Ostrow, *supra* note 4, at 1068 (noting that some places have actually imposed moratoria on wind turbine siting due to the local opposition).

14. Salkin & Ostrow, *supra* note 4, at 1071. The "flicker" effect refers to the appearance of blinking or flashing light that results from turbine rotation. *Id*. at 1073.

15. Erica Schroeder, *Turning Offshore Wind On*, 98 CALIF. L. REV. 1631, 1636 (2010) (noting that pursuit of offshore wind potential can mitigate the space problem while providing potential for larger and more effective wind farms).

16. *20% Wind Energy By 2030: Increasing Wind Energy's Contribution to U.S. Electricity Supply*, U.S. DEPT. OF ENERGY (July, 2008) 48, 124, http://www1.eere.energy.gov/wind/pdfs/41869.pdf [hereinafter *20% Wind Energy by 2030*]. The United States is currently the leader in "cumulative wind energy installations." *Winds of Change: A Manufacturing Blueprint for the Wind Industry*, AMERICAN WIND ENERGY ASSOCIATION, http://www.awea.org/learnabout/publications/upload/BGA_Report_062510_FINAL.pdf 10 (last visited Apr. 9, 2012). However, the United Kingdom, as the number one offshore wind energy producer, receives a total of 688 MW from offshore wind power; Denmark, being number two in offshore wind energy production, receives a total of 663.6 MW from offshore wind power. *World Wind Energy Report 2009*, WORLD WIND ENERGY ASSOCIATION, 9, http://www.wwindea.org/home/images/stories/worldwindenergyreport2009_s.pdf (last visited Apr. 9, 2012). The United States has yet to break into even the top 12 countries regarding offshore wind energy production. *Id.*

17. Jacqueline S. Rolleri, *Offshore Wind Energy in the United States: Regulations, Recommendations, and Rhode Island*, 15 ROGER WILLIAMS U.L. REV. 217, 218 (2010).

18. These three examples are merely illustrative.

United States.[19] Studies suggest that offshore wind capture can produce approximately 98,000 megawatts (MW) of energy in the shallow coastal waters of the United States.[20] That amount of energy could provide power for between 22 and 29 million homes in the United States, which is approximately 20–26% of all homes in the United States.[21] Generally, the United States has kept pace with other countries regarding onshore wind energy, but the nation has fallen far behind in utilizing offshore wind potential.[22]

Offshore wind farm development ameliorates the space problem posed by onshore wind farms, eliminates interference with populated areas, and negates the need for a buffer zone between the wind farm and the population.[23] Wind farms designed to produce utility-scale energy require massive amounts of land to space numerous windmills far enough apart to prevent interference with one another. Offshore farms would decrease the potential space problems because the space leased would be vast and unpopulated. In particular, pursuing wind farm development in the Gulf of Mexico offshore Louisiana (both in state and federal waters) would help Louisiana catch up in the current trend toward the use of alternative energy sources.

Louisiana, while having almost no onshore wind energy potential, does have the potential to produce significant amounts of energy from offshore wind farms.[24] This Comment generally proposes that Louisiana adopt legislation to address the many unique issues that will inevitably arise as the shift to offshore wind energy reaches Louisiana. Specifically, it asserts that royalties are an inappropriate compensation scheme for the wind energy industry and proposes that a fixed compensation scheme, such as the one currently functioning for oyster leases, would be a more useful mode of compensation. Section II discusses the evolution of the energy sector in the United States and explains

19. Ransom, *supra* note 2, at 466 ("[F]ifty-four percent of the U.S. population resides in coastal states . . . .").

20. Schroeder, *supra* note 15, at 1632-33.

21. *Id*. at 1633. *See also 20% Wind Energy by 2030*', *supra* note 16.

22. *20% Wind Energy by 2030*, *supra* note 16, at 48, 124.

23. *20% Wind Energy by 2030*, *supra* note 16, at 116-18 (describing opposition to siting of wind farms).

24. *Louisiana Offshore 90-Meter Wind Map and Wind Resource Potential*, WIND POWERING AMERICA, http://www.windpoweringamerica.gov/windmaps/offshore_states.asp?stateab=la (last visited Apr. 9, 2012) (showing offshore potential suitable for wind energy production).

the pattern of energy technology and the differences that exist among energy regimes. Further, Section II explains the current governmental frameworks for alternative energy, including both federal and state schemes. Section III expounds the different compensation schemes that currently operate regarding state-leased lands. Section IV proposes that the royalty compensation scheme currently established for the wind industry is inappropriate. It goes on to suggest that Louisiana (and other states) adopt a compensation scheme that is akin to the oyster lease-compensation scheme in Louisiana, which is based on fixed-rate compensation instead of royalty compensation. Section V provides a brief conclusion and emphasizes the need for state-level regulations for wind energy production, particularly offshore.

II. FROM COAL TO RENEWABLE ENERGY—HISTORICAL DEVELOPMENTS AND MODERN GOVERNMENTAL FRAMEWORKS

Understanding the evolution of the energy sector is essential in order to grasp the framework from which the current energy regulations arise. As such, subsection A briefly summarizes the energy sector's evolution. With that background, subsection B then describes the pertinent government frameworks currently existing for renewable energy sources; this subsection generally discusses the regulations affecting renewable energy and focuses more specifically on the regulations that are most germane to the wind industry.

A. THE ENERGY SECTOR EVOLUTION

This subsection focuses on the shift from coal to oil, then from oil to natural gas, and finally looks forward to renewable energy sources. Each of these changes demonstrates the energy industry's perpetual evolution.

Throughout the history of energy, coal has been a pivotal mineral. Coal use was first recorded as early as 1673.[25] Starting then and continuing over many centuries, coal was the driving force behind many energy developments.[26] In 1882, Thomas

25. *Secure and Reliable Energy Supplies—History of U.S. Coal Use*, NAT'L ENERGY TECH. LABORATORY, www.netl.doe.gov/KeyIssues/historyofcoaluse.html (last visited Apr. 9, 2012) [hereinafter ENERGY LAB].

26. *Id.* Around 1700, coal was discovered in what is now Virginia. *Id.* By the

Edison built the first coal-powered electric generation station, which supplied energy to New York City residences.[27] This event marked the beginning of what has become coal's primary use today—electric power generation.[28] By the 1960s, coal raced in as the leading fuel used to generate electric utilities.[29] While coal allowed novel energy production, it also created novel environmental damages. Coal combustion threw "smoke, soot, sulfur dioxide, and various other unsavory substances" into the air,[30] affecting industrial areas and homes the most.[31] Urbanization during the late twentieth century significantly increased the pace of energy use, resulting in greater demand for energy.[32] As the pollution accumulated, the cities of that time were often covered in cloudy smog.[33]

When oil exploration and extraction reduced coal combustion, the pollution problem declined marginally. The major shift from coal to oil, between 1910 and 1950, occurred in response to price incentive and environmental concern.[34] When oil exploration first took off, the Russian Empire led the way.[35] America followed closely behind, tapping into the resources in Texas, Oklahoma, and California.[36] After 1950, the American oil and gas industry soared due to the exploration of oil fields and development of appropriate infrastructure.[37] Also at that time, oil prices significantly dropped because the established technology allowed for faster and cheaper production than before.[38]

1800's, Americans began experimenting with a number of ways to use coal. *Id.* These included using coal to heat salt mines and provide salt for communities, to light up dark streets, and to make glass. *Id.* In 1839, the steam shovel was invented, which allowed for mechanized surface mining of coal. *Id.*

27. ENERGY LAB, *supra* note 25.

28. *Id.*

29. *Id.*

30. MCNEILL, *supra* note 4, at 51.

31. *Id.*

32. *Id.* at 315.

33. *Id.* at 72, 76, 79, 83 (especially problematic in London, Los Angeles, and Athens; smog, the combination of smoke and fog, became most problematic in "Megacities," including Mexico City and Calcutta).

34. MCNEILL, *supra* note 4, at 298 ("[T]he United States shifted to oil first, between 1910 and 1950.").

35. *Id.* (followed by Romania and the Dutch East Indies).

36. *Id.* (The first "big American oil strike" occurred in Texas).

37. *Id.* (Recall that urbanization caused the earlier increased demand for coal).

38. *Id.*

During this shift from reliance on coal to oil, industrialization rather than urbanization contributed to the increased demand for energy.[39] Industrialization immediately increased reliance on energy-producing resources and, thus, increased pollution.[40] However, over time, industries became more efficient, leading to a decreased demand for energy-producing resources and, thus, less pollution.[41] As this brief history demonstrates, for the greater part of the twentieth century, the energy-producing world relied heavily on coal and oil. While there is seemingly an abundance of crude oil, natural gas, and coal, the negative impact on the environment requires change in the energy arena.

There is a strong movement toward natural gas as a readily available and accessible alternative to coal and oil in the United States.[42] Natural gas is the cleanest burning of any fossil fuel and has largely displaced coal and oil at newer energy-generation facilities.[43] When burned, natural gas releases far less harmful particles into the air than coal or oil.[44] In fact, natural gas, unlike coal or oil, releases mostly the same compounds that humans regularly exhale.[45] Moreover, according to the Department of Energy, natural gas provides for 22% of America's energy consumption.[46] The United States contains a large reserve of natural gas that is readily accessible and can reduce the current reliance on foreign fuels.[47] As such, natural gas is an

39. MCNEILL, *supra* note 4, at 315-316.

40. MCNEILL, *supra* note 4, at 298.

41. *Id.* at 316 ("Industries . . . learned to use less raw material per unit of output, permitting 'dematerialization.'").

42. *About Natural Gas*, LA. OIL & GAS ASS'N, http://www.loga.la/natural-gas.html (last visited Apr. 9, 2012).

43. *Id.*; *see, e.g.*, *Natural Gas: Coal and Natural Gas Prices, 2000-2008*, DEPT. OF ENERGY, http://www.energy.gov/energysources/naturalgas.htm (last visited Apr. 9, 2012).

44. *About Natural Gas*, LA. OIL & GAS ASS'N, http://www.loga.la/natural-gas.html (last visited Apr. 9, 2012).

45. *About Natural Gas*, LA. OIL & GAS ASS'N, http://www.loga.la/natural-gas.html (last visited Apr. 9, 2012). ("Composed primarily of methane, the main products of the combustion of natural gas are carbon dioxide and water vapor, the same compounds that [humans] regularly exhale when [they] breathe.").

46. *Id.*

47. *Id.* Louisiana's first natural gas pipeline was established in 1908. *History of the Industry*, LA. MID-CONTINENT OIL & GAS ASS'N, http://www.lmoga.com/resources/oil-gas-101/history-of-the-industry/ (last visited Apr. 9, 2012). Then, in 1921, the Haynesville Shale was discovered. *Id.* The Haynesville Shale is a "layer of sedimentary rock more than 10,000 feet below the surface of the

essential transition fuel to facilitate the movement from oil and coal towards renewable energy resources.[48] Use of natural gas substantially reduces carbon dioxide emissions in comparison to coal and oil combustion.[49] However, it does not ultimately solve the pollution problem, and while it is available in significant reserves, it does not provide an infinite source of energy. Thus, although natural gas is an essential step toward a cleaner environment, movement toward renewable energy sources must continue.

There is a strong movement toward wind energy production both in the United States and in other countries.[50] In fact, the growth rate of wind power internationally was a remarkable 31.7% in 2009.[51] In the United States, the movement toward wind energy is visible in both the federal and state contexts; there is even formidable encouragement from President Barack Obama to embrace domestic alternatives and decrease reliance on foreign fuel.[52] Americans seemingly support the adoption of a federally

Earth" that underlies parts of Louisiana, Arkansas, and Texas. *About Haynesville Shale*, LA. OIL & GAS ASS'N, http://www.loga.la/haynesville-shale.html (last visited Apr. 9, 2012). Although the abundance of natural gas makes it a desirable resource, the natural gas realm, like any energy realm, is expensive to explore. *Extraction*, NATURAL GAS.ORG, http://www.naturalgas.org/naturalgas/extraction.asp. Despite this price tag, the Haynesville Shale has begged great attention over the past number of years in response to the cry to reduce reliance on foreign oil and utilize cleaner methods of energy production. *About Natural Gas*, LA. OIL & GAS ASS'N, http://www.loga.la/natural-gas.html (last visited Apr. 9, 2012) ("Coal and oil are composed of much more complex molecules, with a higher carbon ratio and higher nitrogen and sulfur contents."). Moreover, this option is attractive in Louisiana because Louisiana is "ranks second in the nation in natural gas porduction." *Industry Sectors, Exploration and Production*, LA. MID-CONTINENT OIL & GAS ASS'N, http://www.lmoga.com/resources/oil-gas-101/history-of-the-industry/ (last visited June 17, 2012).

48. Today coal remains an attractive resource because it is cheap and domestic. *What is the Role of Coal in the United States?*, U.S. ENERGY INFO. ADMIN., www.eia.gov/energy_in_brief/role_coal_us.cfm (last updated May 27, 2011). However, the environmental effects of coal combustion include chemical emissions that are associated with acid rain, smog, and health problems. *Id.* Moreover, carbon dioxide emission from coal combustion is linked to climate change. *Id.* In spite of these environmental hazards, coal remains the leading energy-producing mineral. *Id.* Today, about half of electricity in the United States is coal-generated. *Id.* The environmental hazards associated with coal led to the development of oil as a huge energy-producing mineral.

49. *Id.*

50. *See* Salkin & Ostrow, *supra* note 4.

51. *World Wind Energy Report 2009*, WORLD WIND ENERGY ASS'N, 5 (2010) http://www.wwindea.org/home/images/stories/worldwindenergyreport2009_s.pdf.

52. *Remarks by the President to the Nation on the BP Oil Spill*,

mandated "Renewable Energy Standard," which would either ensure or encourage increased reliance on alternative energy resources.[53] While the federal government has yet to adopt such a standard, it has created considerable tax incentives for wind energy projects and has recently endorsed loans for renewable energy projects.[54] In addition, many states have recently adopted "Renewable Profile Standards," which either require or encourage increasing reliance on renewable energy resources.[55] As a result, many states, including Texas, California, and Massachusetts, have embraced wind energy potential onshore.[56]

Louisiana, on the other hand, may best facilitate wind energy production by focusing its efforts on offshore potential.[57] There are many unique issues that arise when considering how to practically build and maintain wind farms offshore. A shift to wind energy requires the adoption of carefully crafted legislation that specifically addresses the novel legal problems created by wind energy production. A starting point for such legislation is in the oil and gas regulatory framework because both are energy regimes that undoubtedly have striking similarities. However, wholesale adoption of a regulatory framework that essentially mirrors that of the oil and gas regulations would be unwise, because it would fail to address the novel issues that wind energy production creates.

B. CURRENT GOVERNMENTAL FRAMEWORKS FOR RENEWABLES

Many regulations currently exist in federal, state, and local governments that encourage a shift toward alternative energy production. However, these different tiers of regulations fail to

http://www.whitehouse.gov/the-press-office/remarks-president-nation-bp-oil-spill (last visited May 27, 2012) ("As we recover from this recession, the transition to clean energy has the potential to grow our economy and create millions of jobs – but only if we accelerate that transition.").

53. *Poll Shows Wide Support for American Renewable Energy Standards*, ENERGY PORTAL, (May 18, 2009, 5:10 AM), http://www.energyportal.eu/green-energy/poll-shows-wide-support-for-american-renewable-energy-standards.html; *see* Section II.B. for discussion of renewable energy standards.

54. Schroeder, *supra* note 15, at 1631-32.

55. Salkin & Ostrow, *supra* note 4.

56. Schroeder, *supra* note 15.

57. *See Louisiana Offshore 90-Meter Wind Map and Wind Resource Potential*, WIND POWERING AMERICA, http://www.windpoweringamerica.gov/windmaps/offshore_states.asp?stateab=la (last visited Apr. 9, 2012) (showing offshore potential suitable for wind energy production).

provide a clear and concise framework within which energy companies can work to produce alternative energy. This subsection provides a brief summary of the current governmental frameworks that regulate alternative energy production. While not confined to wind energy production, this subsection does focus on wind energy production. The first subsection provides a brief summary of the federal regulations that are most relevant to wind energy production offshore. The second subsection generally discusses the current trends in state regulations regarding renewable energy, particularly wind, and then focuses on current regulations in Louisiana.

1. FEDERAL

At the federal level, The Energy Policy Act of 2005 vests power over offshore wind farm approval and permits in the Department of the Interior (DOI), specifically through the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE).[58] The requirements are imposed by a number of acts, most importantly the Coastal Zone Management Act (CZMA), the Outer Continental Shelf Lands Act (OCSLA), and the National Environmental Policy Act (NEPA).

While most offshore wind proposals involve federal waters, state regulations govern the movement of wind from the site of capture to the land, where it is transformed into usable energy and distributed for use. The CZMA is the balancing mechanism between the federal government and state governments.[59] Upon its enactment, it immediately shifted great authority regarding the coastal waters from the federal government to states and localities.[60] The CZMA provides general guidelines and concerns that arise from energy production and development in the coastal zone.[61] The CZMA relies on the cooperation between each level of government: federal; state; and local.[62] While this goal is noble,

58. *Who is BOEMRE?*, BUREAU OF OCEAN ENERGY MGMT., REGULATION & ENFORCEMENT, http://www.boemre.gov/aboutBOEMRE/ (last visited Apr. 9, 2012).

59. Congressional Findings, 16 U.S.C.A. § 1451 (Coastal Zone Management).

60. Rusty Russell, *Neither Out Far Nor In Deep: The Prospects for Utility-Scale Wind Power in the Coastal Zone*, 31 B.C. ENVTL. AFF. L. REV. 221, 234 (2004) ("[CZMA] encourages states to take charge of their own coastal problems, often with little federal oversight and even less interference.").

61. Congressional Findings, 16 U.S.C.A. § 1451 (Coastal Zone Management).

62. Russell, *supra* note 60 (noting that the CZMA is a prime example of the federal government attempting to create a cooperative framework among the different levels of government). This theory is known as "cooperative federalism."

as it allows individual state endeavors, it provides little specific guidance regarding novel situations, such as offshore wind farm siting.[63] Although state participation is voluntary, the CZMA is appealing because of the power that the federal government surrenders to participating states.[64] This incentive is supplemented by payments, albeit minimal, that the federal government makes to participating states.[65] In exchange for the benefits, the states must submit a management plan for their coastal zones.[66] Once approved, the federal government's participation in the enforcement or regulation of the plans is limited, thus giving very broad power to the states.[67]

The CZMA adopts a general policy of encouraging efficient use and exploration of the coastal zone while paying careful attention to the impact that such activity has on the environment.[68] Moreover, the CZMA provides incentives for the careful exploration of energy sources offshore through grants[69] and strongly encourages cooperation between the federal government and the state governments in exploring these areas.[70] While this provides some guidance regarding who controls what waters, it does not vest any power in the federal government specifically regarding wind farms. Thus, it seemingly leaves the door open to state governments for regulation of specific wind

See Salkin & Ostrow, *supra* note 4, at 1054.

63. Russell, *supra* note 60, at 234.

64. *Id.* at 237 (noting that while the CZMA is voluntary, it "has attracted almost unanimous participation").

65. *Id.* at 237 ("[S]tates must submit—then implement and maintain—a qualifying coastal management plan.").

66. *Id.*

67. *Id.* at 238. Although the federal government does periodically review the state's implementation of the plan. *Id.*

68. *See* 16 U.S.C.A. § 1452(1), (3) (2011) ("The Congress finds and declares that it is the national policy—(1) to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone . . . (3) to encourage the preparation of special area management plans which provide for increased specificity in protecting significant natural resources . . . .").

69. *See* 16 U.S.C.A. § 1455(a) (2011) ("The Secretary may make grants to any coastal state for the purpose of administering that state's management program . . . ."). This provision is subject to many requirements that the state must meet in order to be eligible for the grant. *Id.*

70. 16 U.S.C.A. § 1456(a)(1)(A) (2011) ("Each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs.").

projects.

OCSLA was enacted in 1953 to delegate authority over mineral exploration on the Outer Continental Shelf to the DOI.[71] It generally regulates production of minerals on the Outer Continental Shelf.[72] OCSLA proved sufficient to regulate oil and gas exploration on the Outer Continental Shelf.[73] "Minerals," as defined by OCSLA, include "oil, gas, sulphur, geopressured-geothermal and associated resources, and *all other minerals* which are authorized by an Act of Congress to be produced from 'public lands.'"[74] Authority over alternative energy sources remained controversial until the legislature passed the Energy Policy Act of 2005, which vested authority over alternative energy resource development on the Outer Continental Shelf in the DOI.[75] Moreover, the Energy Policy Act of 2005 showed early support for the development of renewable energy projects through meager incentives.[76] Nearly a year later, the authority over renewable energy was specifically delegated to the Secretary of the Mineral Management System (MMS), now BOEMRE.[77] This delegation, while not a complete endorsement of offshore alternative energy, marked the initial step toward a unified review of offshore renewable energy projects, including wind.[78]

NEPA is also important in the exploration and production of energy from offshore wind potential.[79] NEPA mandates that any federal agency responsible for activities that significantly impact the "quality of the human environment" generate a statement summarizing the environmental impact of its actions.[80]

71. Outer Continental Shelf Lands Act, 43 U.S.C.A. § 1331 (2011).

72. *Id.*

73. *Id.*

74. Outer Continental Shelf Lands Act, 43 U.S.C.A. § 1331(q) (2011) (emphasis added).

75. Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594. 43 U.S.C.A. § 1337 (2011).

76. Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594; *see also* Wendie L. Kellington, *Siting Wind Energy Facilities in the United States and Key Local Land Use Issues*, SN005 A.L.I.—A.B.A. Course of Study 795 (2007).

77. *Who is BOEMRE?*, BUREAU OF OCEAN ENERGY MGMT., REGULATION & ENFORCEMENT, http://www.boemre.gov/aboutBOEMRE/ (last visited Apr. 9, 2012).

78. Schroeder, *supra* note 15, at 1643-44.

79. *See generally* Michael P. Giordano, *Offshore Windfall: What Approval of the United States' First Offshore Wind Project Means for the Offshore Wind Energy Industry*, 44 U. RICH. L. REV. 1149, 1159-60 (2010).

80. Nat'l Envtl. Policy Act, 42 U.S.C.A. § 4332 (2011).

BOEMRE is responsible for determining whether an environmental impact statement is necessary.[81] Thus, pursuant to NEPA, federal agencies involved in exploration and development of wind energy must first provide a detailed report regarding the impact their activities will have on the environment.[82]

These general frameworks provide some guidance for the siting and permitting of offshore projects in federal waters. However, they are vague and confusing. In 2009, President Obama took a step toward clarifying some of the confusion by beginning a program for federal offshore renewable energy permitting.[83] While the program provides more direct regulations and guidance for federal projects, it does not address the unique issues that arise regarding wind, including royalty issues. Thus, the patchwork of federal regulations provides little guidance for wind projects in the waters that border the United States. Because they instead focus on a cooperative federalism approach among localities, states, and the federal government, it is essential that states develop sensible regulatory frameworks before any meaningful production of wind energy can take place offshore.

2. STATE

There is currently no unified treatment of alternative energy among the states. Some states have encouraged alternative energy development by adopting mandatory Renewable Energy Standards. Others have adopted only suggestive Renewable Energy Standards. Still others have left the task of encouraging and regulating alternative energy to the localities. These general trends and the Louisiana regulations are discussed in the following two subsections.

a. General Trends

Most states have yet to establish meaningful regulations and guidelines for offshore wind energy production. However, states

81. Giordano, *supra* note 79, at 1160 (noting that they must also complete environmental reviews regarding the environmental effects of the proposal).

82. Giordano, *supra* note 79, at 1160.

83. Energy & Environment, *available at* http://www.whitehouse.gov/issues/energy-and-environment (last visited Feb. 21, 2011).

that have progressed toward wind energy production tend to follow one of three general themes. First, many such states have adopted Renewable Energy Standards, which require energy companies to derive a certain percentage of energy production from the use of renewable energy technology. Second, some states have adopted statutes that specifically regulate permitting and siting of wind facilities. Third, some states leave decisions regarding renewable energy, including wind, to localities and municipalities instead of attacking the issues on a statewide basis.

Generally, a Renewable Energy Standard is a statewide program that seeks to increase the amount of energy produced by alternative resources each year. Currently, twenty-nine states and the District of Columbia have adopted Renewable Energy Standards.[84] Nineteen of these states impose strict mandates for renewable energy increases.[85] Oregon, for example, adopted the Renewable Energy Act of 2007, which requires growing increments of alternative energy production to 25% by 2025.[86] Some states have specific provisions within their Renewable Energy Standards that target an increase in wind energy production. For instance, Minnesota adopted a Renewable Energy Standard that requires not only an increase in energy production from renewable sources, but also an increase specifically in the amount of electricity produced by wind energy potential.[87] Also, Massachusetts requires two gigawatts (GW) of wind-produced energy by 2020, and Maine requires eight GWs of wind-produced energy by 2030.[88] Some states have eschewed

84. *Renewable Power & Energy Efficiency Market: Renewable Portfolio Standards*, FED. ENERGY REGULATORY COMM'N, http://www.ferc.gov/market-oversight/othr-mkts/renew/othr-rnw-rps.pdf (last updated May 3, 2011) [hereinafter *Renewable Portforlio Standards*] (including the following: Iowa, Michigan, North Carolina, Ohio, Texas, Wisconsin, Arizona, Massachusetts, Missouri, Montana, Pennsylvania, Rhode Island, Washington, Kansas, Maryland, New Mexico, New Hampshire, New Jersey, Connecticut, Delaware, Illinois, Minnesota, Nevada, Oregon, California, Colorado, New York, Hawaii, Maine, and the District of Columbia).

85. *Id.*

86. Oregon Renewable Energy Act, S.B. 838 2007 Leg., Reg. Sess. § 6(a), (d) (Or. 2007). Specifically, this Act requires that Oregon's largest utilities acquire 5% electricity from renewable sources in 2011 and that the desired percentage increases each year, rising to 25% by 2025. *Id.*

87. Patricia E. Salkin, *Renewable Energy-Wind Power*, 4 Am. L. Zoning § 37:9 (5th ed.) (2010); MINN. STAT. ANN. § 216B.2423(2) (West 2007).

88. *Renewable Portfolio Standards*, *supra* note 84.

strict Renewable Energy Standard mandates and instead adopt Renewable Energy Standard goals.[89] These goals provide a general framework for states to work within but stop short of mandating movement toward alternative energy resources.

A number of states have adopted statutes that address the particularities of wind energy. For instance, Connecticut vests the regulation of siting for renewable energy sources in the Connecticut Siting Council.[90] In Connecticut, those regulations are mandatory and enforceable.[91] In contrast, some states, including Wisconsin, Ohio, New York, and Michigan, have adopted a voluntary framework.[92] Still other states leave the regulation of alternative energy resources to localities.[93]

b. Louisiana

Louisiana has not adopted a Renewable Energy Standard; however, Louisiana has adopted a pilot goal of 350 MW of renewable energy by 2012–2013.[94] Moreover, the legislature has enacted a number of statutes dealing specifically with siting of wind energy facilities. These regulations are available in the Louisiana Administrative Code, Title 43, Part 1. Although Louisiana has yet to pursue wind energy, this Part is meant to prepare for "state wind lease acquisition, transfer, release, [and] operations . . . ."[95] The steps a prospective lessee must fulfill before being awarded a wind lease include: registration; pre-nomination research; nomination of state water bottoms; evaluation of the nomination for the wind lease; bidding for the lease requested; award of the state lease; and, finally, issuance

89. *Renewable Portfolio Standards*, *supra* note 84.

90. Connecticut Siting Council, Wind Energy, http://www.ct.gov/csc/cwp/view.asp?a=3&q=472580 (last visited Jun. 17, 2012).

91. Wind Power Siting, Incentives, and Wildlife Guidelines in the United States, Department of the Interior, U.S. Fish & Wildlife Service, October 2007, p. 22 http://www.fws.gov/habitatconservation/windpower/AFWA%20Wind%20Power%20Final%20Report.pdf.

92. *Renewable Portfolio Standards*, *supra* note 84.

93. A common problem that occurs when regulations are left to localities is that the localities are very hasty to adopt moratoria against the siting of wind farms in the locality. Kellington, *supra* note 76. *See, eg.*, *Ecogen, LLC v. Town of Italy*, 438 F. Supp. 2d 149 (W.D.N.Y. 2006) (imposing a two-year moratoria); *Bomba v. Zoning Bd. of Appeals of the Town of Princeton*, 2005 WL 2106162 (Mass. Land Ct. 2005).

94. *Renewable Portfolio Standards*, *supra* note 84.

95. LA. ADMIN CODE. tit. 43, pt. I, § 1003 (2011) (demonstrating at least an initial interest in the pursuit of wind energy).

and execution of the lease.[96] The Office of Mineral Resources is responsible for approving the applications and issuing the leases.[97] Moreover, the Office of Mineral Resources collects any payments the lessee of the state land or water bottom is required to make for the development of a wind energy project.[98] If no production has occurred at the end of the term for any granted wind lease, the lease terminates.[99] However, if production has occurred, the lease continues indefinitely as long as there is not a lapse in production of "more than 180 days."[100] Finally, these provisions facilitate the collection of "electric power production royalty payment[s]."[101] These are facially analogous to royalties in the oil and gas industry, although they are calculated differently, because they cannot be measured in a way similar to that in the oil industry. The royalties regarding both oil capture and wind energy production are further discussed in Section IV.

The current federal and state schemes provide some insight and guidance for the development of wind energy. However, many of these schemes are optional and, thus, do not provide any concrete guidance for those wishing to pursue wind energy as a viable alternative to traditional energy sources, including coal, oil, and natural gas. Moreover, the Louisiana legislature has adopted a battery of general statutes to regulate the development of wind energy in Louisiana. Those regulations have yet to be tested, as there has been little movement toward wind exploration in Louisiana. A common problem with these regulatory schemes is that many ignore royalties as an issue and simply adopt a royalty scheme that seems similar to that in the oil and gas industry but instead is fundamentally different.

III. COMPENSATION SCHEMES IN LOUISIANA

This Section provides a brief overview of three different compensation schemes currently existing in Louisiana, among which there are crucial differences. Subsection A explains the compensation scheme that is currently intact for the oil industry in Louisiana. Subsection B explains the current compensation scheme for the wind industry in Louisiana. Finally, subsection C

96. LA. ADMIN. CODE tit. 43, pt. I, § 1005 (2011).
97. LA. ADMIN. CODE tit. 43, pt. I, § 1013 (2011).
98. LA. ADMIN. CODE tit. 43, pt. I, § 1023 (2011).
99. *Id.*
100. LA. ADMIN. CODE tit. 43, pt. I, § 1029B (2011).
101. LA. ADMIN. CODE tit. 43, pt. I, § 1031 (2011).

explains the compensation scheme that is currently effective in Louisiana's oyster industry. While reading this Section, consider the differences and similarities that wind shares with oil and with oysters.

A. OIL INDUSTRY—ROYALTIES

Louisiana recognizes a right in oil termed a mineral royalty.[102] The owner of the royalty right is entitled to a certain amount of money (the royalty) for every bit of mineral that a company extracts from the well to which his royalty right is tied.[103] Thus, the amount due to the royalty owner is dependent on the amount of raw production. If there is no production, the owner of the royalty right is not entitled to any royalty amount; on the other hand, if there is production, the owner of the royalty right is entitled to a certain amount of money for each measurable fraction of the raw production of the mineral.[104]

The Louisiana Supreme Court established the concept of the royalty right in its 1939 decision, *Vincent v. Bullock*.[105] There, the dispute turned on whether royalties could attach to property in perpetuity.[106] For the first time, the Louisiana Supreme Court recognized royalty rights as real rights, holding that they are subject to finite timeframes and applicable prescriptive periods.[107] Moreover, the court established that royalty rights are accessory

102. LA. REV. STAT. ANN. § 31:80-81 (1975) ("A mineral royalty is the right to participate in production of minerals from land owned by another or land subject to a mineral servitude owned by another. Unless expressly qualified by the parties, a royalty is a right to the share in *gross production free of mining or drilling and production costs*.") (emphasis added); John M. McCollam, *A Primer for the Practice of Mineral Law Under the New Louisiana Mineral Code*, 50 TUL. L. REV. 729, 766 (1976).

103. *See* Humble Oil & Refining Co. v. Guillory, 33 So. 2d 182, 184 (La. 1946) ("the sale of royalties under an existing lease and future leases, is nothing more than the transfer of a *proportionate share of the production, if any, that the landowner may be entitled to under the terms of the lease*.") (emphasis added); *see also* McCollam, *supra* note 102, at 766.

104. LA. REV. STAT. ANN. § 31:80 (1975). The royalty right owner can also choose to collect his royalty in kind. *Id.*

105. Vincent v. Bullock, 187 So. 35 (La. 1939). The court noted that the royalty concept originated in England, "where it was used to designate the share in production reserved by the crown from those to whom the right to work mines and quarries was granted." *Id.* at 39.

106. *Id.* at 38-39.

107. *Id.* The court recognized that the purpose of a royalty right is to compensate the landowner for the drilling occurring on his land. *Id.* at 39-40.

to the principal rights to which they attach and, therefore, cannot exist independently of a principal right.[108]

Then, in 1975, the Louisiana legislature incorporated the principle established in *Vincent* into the Mineral Code.[109] Section 80 explains the nature of a royalty, stating,

> a mineral royalty is a right to participate in production of minerals from land owned by another or land subject to a mineral servitude by another.[110] Unless expressly qualified by the parties, a royalty is a right to share in ***gross production*** free of mining or drilling and production costs.[111]

Further, § 82 indicates that the owner of the land, the owner of the mineral rights, or the owner of the mineral servitude can create mineral royalties.[112] Royalties are completely attached to another agreement and cannot exist independently. Thus, Louisiana law views royalties as a percentage due to the lessor (potentially the state) as soon as the oil is severed from the ground.

B. WIND INDUSTRY—ROYALTIES

Louisiana has recently embraced the royalty concept regarding wind energy production. Louisiana Administrative Code Title 43, Part I, § 1031 specifically provides for the collection of royalties based on wind energy production. It states, "A state wind lease shall contain a provision permitting the state, at its option, to take in kind all or any part of the portion due it as royalty of any ***wind generated electric power produced from the leased premises***."[113] These royalties are craftily coined,

108. *Id.* ("[T]he royalty depends upon the continued existence of the right to which it is an appendage. It cannot have a life of its own any more than could interest exist apart from the note or debt to which it is attached."); *see also* Continental Oil Co. v. Landry, 41 So. 2d 73, 75 (La. 1949) ("[Royalty] right is merely one to share in the production of oil, gas, and other minerals if and when they are produced from the property subject to the right. . . . [M]ineral right is necessarily superior to a royalty right. The owner of the mineral right has the right of ingress to, and egress from, the land, the right to produce the minerals . . . . On the other hand, the owner of a royalty right has none of these rights . . . .").

109. LA. REV. STAT. ANN. § 31:80-81 (1975).

110. LA. REV. STAT. ANN. § 31:80 (1975) (emphasis added).

111. *Id.* (emphasis added).

112. *Id.*

113. LA. ADMIN. CODE tit. 43, pt. I, § 1031(A) (2011) (emphasis added) (note that this is different from the way that royalties are collected from *raw production* of oil

"electric power production royalty." Thus, the name itself indicates that the royalties are based on electricity production rather than the raw mineral production.[114] Moreover, the royalties on a wind lease are calculated from the lessee's "gross revenues."[115] "Gross revenues" are defined as "all ***gross receipts*** of lessee from the ***sale of electricity generated*** by lessee on the leased premises . . . ."[116] Essentially, this royalty scheme forces the wind energy production companies to pay for production cost before royalties are collected.

The way royalties are calculated for the wind industry is inherently different from the way royalties are calculated in the oil and gas industry.[117] There, the royalties are calculated based on raw production of the mineral;[118] there is no collection based on the product actually made from that raw production. The wind royalties, conversely, are based on the final product—the electricity—rather than raw capture of the wind.[119]

At first glance, the electric power production royalty seems to focus on the similarities between energy production from wind and energy production from oil and gas. However, there are fundamental differences between these two methods of energy production that demand different compensation methods for each. While royalty collection is effective and sensible for the oil industry, it would be more sensible for the wind industry to adopt a compensation method similar to that in the oyster industry, which requires a fixed rental rate.

C. OYSTER INDUSTRY—FIXED RENT

The oyster industry is incredibly lucrative in Louisiana. According to the Louisiana Department of Health and Hospitals (DHH), the oyster industry provides more than 3,500 jobs to Louisianans and contributes $318 million per year to Louisiana's economy.[120] Similarly to the oil industry or the potential offshore

and gas; here the collection is on the *actual production of electricity*). Moreover, that section specifically dictates the time that the royalties are due and the consequences for late payments. *Id.*

114. LA. REV. STAT. ANN. § 41:1733(D) (2011).

115. LA. ADMIN. CODE tit. 43, pt. I, § 1031(A) (2011).

116. LA. ADMIN. CODE tit. 43, pt. I, § 1031(A)(1) (2011) (emphasis added).

117. *Supra* Section III.A & B.

118. *Id.*

119. *Supra* text accompanying note 113.

120. DEPT. OF WILDLIFE & FISHERIES, News Release, *DHH, LDWF Officials*

wind industry, the oyster farms that operate in the state do so within the state waters of the Gulf. Thus, oyster production is contingent upon the availability of leases in state-owned waters. However, unlike the offshore energy industries, the state government provides set rental rates for oyster leases rather than collecting royalties on oyster production.

The laws that regulate oyster leases are found in the Louisiana Revised Statutes 56, §§ 423–433. The secretary of state has the authority to lease the state-owned water bottoms to "any resident, any firm composed of residents, or any corporation domiciled in or organized under the laws . . ." of Louisiana.[121] A person interested in leasing the state-owned water bottoms for oyster farming must initially submit an application and an application fee.[122] Thereafter, DHH registers the application and orders an examination to determine whether the water bottom subject to the proposed lease is available for such a lease.[123] Pursuant to an oyster lease, the lessee enjoys exclusive use of water bottoms.[124] This exclusivity is subordinate only to state needs.[125] The duration of oyster leases is set at fifteen years, and the lessee is given the first right of lease renewal at the end of the initial fifteen years.[126] The rate of the rental is statutorily set at two dollars per acre per year.[127] Each lease is limited to 2,500 acres of water bottom coverage.[128] The fixed compensation method used in the oyster industry is effective and allows the oyster sellers to fully and efficiently profit from their product. This type of fixed rate would be similarly effective in the wind

Express Concerns Over Proposed F.D.A. Oyster Action on Oyster Industry, *available at* http://www.wlf.louisiana.gov/news/30420.

121. LA. REV. STAT. ANN. § 56:425(A) (2012).

122. LA. REV. STAT. ANN. § 56:427(A) (2012).

123. *Id.*

124. LA. REV. STAT. § 56:432 (2012).

125. *Id.*

> A lessee of oyster beds or grounds who obtained . . . his lease in compliance with the law shall have the right to maintain an action for damages against any person, partnership, corporation, or other entity causing wrongful or negligent injury to the beds or grounds under lease to such lessee. However, no lessee shall have any right to maintain any action against the state . . . .

Id. at B(1).

126. LA. REV. STAT. ANN. § 56:428(A) (2012).

127. LA. REV. STAT. ANN. § 56:428(C) (2012) (acreage is rounded off to the nearest full acre).

128. LA. REV. STAT. ANN. § 56:432 (2012).

industry.[129]

IV. PROPOSING A FIXED RENT COMPENSATION MODEL FOR WIND ENERGY

When Louisiana recognized the need for meaningful legislation regarding the alternative energy industry, especially wind, the legislators attempted to mimic the existing oil and gas regulatory framework. As an established and trusted regime, the oil and gas regulations are certainly useful in the development of wind energy regulations. However, while this approach provides a good starting point, the alternative energy industries present novel issues that require novel regulations. Many regulations that are workable in the oil and gas industry, including the royalty compensation scheme, are not conceptually workable in the wind industry.

Consider the following three scenarios, which illustrate why royalties are inappropriate in the wind energy industry.

Scenario 1:

A and the state enter into an oil drilling lease. Under the terms of the lease, A will have exclusive exploration and drilling rights related to the leased premise. Accordingly, the state will have the right to collect royalties on every measurable unit of resource extracted by means of A's drilling. The royalties, pursuant to the Mineral Code, will be collected as the mineral is severed from the ground before any expense is incurred for the conversion of the oil into usable energy. Moreover, the purpose of the royalty collection is to compensate for the depletion of the mineral from the finite reservoir beneath the state's land. A is satisfied with this arrangement because A has exclusive drilling rights. Likewise, the state is pleased with the arrangement because it is compensated for every bit of mineral extracted.

Scenario 2:

B and the state enter into a wind lease. Under the terms of the lease, B will have exclusive exploration and wind-capture rights. Accordingly, the state will have the right to collect royalties on the energy produced from the wind captured. Here,

129. Though a lease term of longer than fifteen years would be required to allow sufficient time for recovery of substantial investments necessary to develop a wind energy facility offshore.

there is no finite reservoir that is depleted with capture. Also, under this scenario, B is forced to spend money on the conversion of the wind into usable energy before the state collects royalties. Here, the state is pleased because it collects a percentage of B's energy production. However, under this scenario, B is charged on its end product (from which it turns a profit) after the production costs have accrued, and B is charged as though it is depleting a finite mineral.

Scenario 3:

C and the state enter into an oyster lease. Pursuant to the lease terms, C has the exclusive rights over the leased water bottoms for the development and maintenance of an oyster farm. Accordingly, the state will collect a fixed rate per acre each year for the lease. Here, there is no depletion of a finite reservoir, and the state's revenue is not dependent on C's end product. Thus, C is satisfied because it has exclusive control over the water bottoms. The state is also pleased because it collects a fixed price for the lease that is not dependent on production; thus, if production is low one year, the state still collects a predictable sum.

This Section suggests a solution to the problem of relating royalties to wind energy production. First, it discusses why royalties conceptually should not apply to wind energy production. Second, it suggests that a more workable compensation scheme for the wind energy industry would be a fixed compensation scheme similar to the one that exists for oyster leases.

A. ROYALTIES AND WIND: NOT A GOOD FIT?

There are (at least) two major problems with the extension of royalties to the wind industry. First, oil production and wind harnessing are inherently different in that production of energy from wind does not result in the depletion of a finite reservoir. Instead, wind is naturally rejuvenated. Second, charging royalties on wind necessarily means attaching such royalties to the end product instead of the raw production,[130] as is the case in the oil and gas industry.

130. *See supra* Section III.B (explaining the compensation process for wind leases); *see also*, *supra* note 113.

1. NATURAL REJUVENATION

Wind and oil differ drastically regarding the effect of capture on the retention of the respective resource. As oil is captured from a particular location, the amount remaining in that location necessarily diminishes. As in Scenario 1 (above), the more oil that A, the oil lessee, is able to capture from a reservoir during his lease, the less will be available to the landowner upon completion of the lease, at which time the owner regains the exclusive right of exploration on his land. To compensate for the depletion of the mineral, the lessee surrenders a royalty amount, as dictated by the lease, for every unit of oil that is extracted.[131] Due to the gradual depletion of the resource, the property value will necessarily decline over time. Thus, in the oil context, where drilling depletes a finite reservoir, it is logical to attached royalties to the unit of raw mineral to compensate for its reduction.

Recall that the compensation scheme for oyster leases is fixed, instead of production-dependent, as illustrated in Scenario 3 (above).[132] There, unlike oil, no resource is depleted. In this sense, oysters are renewable. While they arise out of the leased premise, similar to oil, they are re-created each season. Farming and capture of oysters does not deplete the potential oyster resource and, therefore, has no negative impact on the long-term property value. Thus, it would not be sensible to attach royalties to production, because production in no way hinders the future potential production from that water bottom.

Wind is more akin to oysters than to oil in the effect of capture on the remaining potential resource. Unlike oil, wind is not confined to a reservoir that is necessarily depleted with each unit captured. Instead, wind is renewable. Each minute, hour, and day brings with it a new reservoir of wind for capture. This natural rejuvenation is similar to oyster seasonal rejuvenation. Capturing wind from a certain location today has no long-term effect on the possibility of wind capture in the future. Whatever quantity is captured at any given time does not deplete any finite reservoir. Upon completion of a wind lease, the owner will not be left with a lesser quantity of wind to capture. There is no concern

131. *See supra* note 102 (indicating that royalties are traditionally collected on *gross production*).

132. *See supra* Section III.C.

for depletion in property value regarding a wind lease in the Gulf of Mexico; thus, concern for decreased future viability of the site, if the landowner should choose to partake in wind energy production, is simply gone with the wind. In the wind lease scenario, contrary to the oil scenario, a landowner, upon the end of a lessee's lease, is left with opportunities that are substantially the same as they were before he leased the land. Therefore, he does not suffer from depletion of property value.

A potential counterargument to this position is that the landowner of a wind lease will necessarily be unable to use the land for the purpose of harnessing the wind and producing energy from it while it is leased. Thus, a seemingly logical conclusion is that the landowner's inability to use the mineral is analogous to the lessee actually depleting the mineral because the lessor will never have access to the wind that the lessee uses. However, this argument must fail because the landowner has control to enter into whichever leases he or she wishes. When those leases expire in the oil and gas realm, the landowner is left with less productive measures and decreased property value as a result. Conversely, in the wind arena, there is no depletion of the resource, and thus there is no value depletion; instead, it is conceivable that the property value would be markedly better than before because a new use for the property may be proven. Thus, a compensation scheme based on royalty collection should not extend to the energy produced by wind farms.[133]

2. ROYALTIES SHOULD NOT ATTACH TO A COMPANY'S END PRODUCT

The second conceptual problem with applying royalties to the wind industry is that the royalties are collected on the actual energy produced rather than the raw mineral as it is captured.[134]

133. A strong argument in support of this proposition also lies in the classification of oil as opposed to that of wind. Oil is classified by the Louisiana Civil Code as a "product," which is a thing derived "as a result of diminution of its substance . . . ." LA. CIV. CODE ANN. art. 488 (2012). Oysters are classified as "natural fruits," which are things that are derived from another thing *without having the effect of diminishing the other thing's substance*." LA. CIV. CODE ANN. art. 551 (2012). Wind is arguably much more akin to a "natural fruit" than a "product" because wind capture does not result in diminishing the substance of anything else. The complete development of this argument is outside of the scope of this paper. It begs the question of classification for wind and supports the proposition that wind is not a mineral and, thus, should not be treated like a mineral by the law.

134. *See supra* note 113 and accompanying text (emphasizing the difference

This is fundamentally different from the way that royalties attach to oil. In the oil context, illustrated in Scenario 1 (above), royalties are collected as the mineral is severed from the ground.[135] Thus, the royalties are subtracted from the amount of *raw* mineral production rather than from the amount of energy that the companies produce for sale as their product.[136] As such, the oil and gas companies are not bound to offer to the state, as lessor, the product that they actually sell. By imposing royalties on the raw mineral, the companies do not spend their valuable resources on production cost for a product that will simply be usurped by the lessor (the state). Instead, the royalties bind the companies before production costs are incurred.

A strong argument can be made that one can address the problems presented above by simply altering the current Louisiana wind regulations so that royalties attach to net receipts instead of gross receipts.[137] Recognizing that requiring royalties to attach to gross receipts fails to consider production cost, it is readily visible that a wind lessee can then be forced to pay royalties even if no profit is made. One can argue that this problem is easily remedied by attaching royalties instead to net receipts. There, the royalties would attach only after a profit is made. While this proposal would ameliorate the narrow problem of the wind companies inequitably paying royalties after production cost is incurred, it does not solve the other problems associated with attaching royalties to wind energy. Also, it does nothing to further incentivize the movement toward wind energy.

In the wind context, illustrated in Scenario 2 (above), it is not possible to collect royalties on the wind resource—it cannot be measured in the same way as oil. Rather, the wind royalties are calculated on the amount of energy that is actually produced from the wind.[138] There is an innate inequity in charging these private companies for each unit of the actual product from which they turn a profit. In effect, the companies are forced to absorb the cost of the production of the energy that turns over into royalties when this has never before been the case.

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between royalties in oil and wind).

135. *See supra* Section III.A.

136. *See supra* Section III.A.

137. *See supra* text accompanying notes 115-16.

138. LA. ADMIN. CODE. tit. 43, pt. I, §1031(A) (2011) (". . . royalty of wind generated electric power produced from the leased premises.").

Furthermore, assuming a wind lease based on the current model,[139] calculating royalties based on the amount of energy production will inevitably lead to unfair advantages for the state as technology advances. Consider Scenario 1, concerning an oil lease. There, the royalties attach as the oil is physically extracted from the ground. Thus, no time or money is spent transforming that oil into usable energy before the royalties are collected. The logical conclusion is that technological advances in extraction techniques have no negative impact, whatsoever, on the royalty collection because the royalties attach to the oil at the point of raw production. It is conceivable, then, that technology that enables more energy production from less oil would actually decrease the amount of royalties that a company pays to the state for the same amount of energy production.

Now consider Scenario 2, regarding a wind lease. Recall that in this scenario the royalties attach to the *energy produced* rather than the *raw resource*. Thus, if technology advanced so that more energy could be produced from less wind, the logical result would be that as the wind companies collected *less wind* to produce *more energy*, the companies would actually be paying *more royalties*. This result is the opposite of that in the oil arena.

Technology will eventually lend itself to more efficient use of wind, allowing the same amount of wind to produce more energy.[140] If more energy is produced from the same amount of wind, then more royalties will be collected proportionally. This effect is likely to dis-incentivize the movement toward wind energy. Allowing wind energy companies to fall victim to such a disadvantage will inevitably lead to decreased productivity and a decline in the drive to further technological advances. This method of royalty collection, in effect, will create a great division of interests between the state, as lessor of the wind farms, and those who have the potential to make wind turbines more efficient.

3. ROYALTIES AND WIND: NOT A GOOD FIT.

The application of royalties to the wind energy industry fails to address the novel issues that are created by the wind industry and fails to consider the differences between the wind industry

139. *See* Scenario 2; *see also* Section III.B.

140. *See supra* note 47, demonstrating this trend throughout the evolution of the energy sector.

and the oil industry. First of all, wind, unlike oil, is a naturally rejuvenating resource. Thus, the underlying purpose for applying royalties is not presented in the wind energy industry. Second, royalties in the wind context attach to the end product instead of the raw resource collected, making the application of royalties to wind inequitable to the companies. Thus, it is essential that the legislature consider a different method of compensation for renewable energy resources, particularly wind, to incentivize the shift towards alternative energy development.

B. FIXED RENT AND WIND: A PERFECT FIT

The Louisiana legislature should adopt a fixed rent scheme for the arising wind industry instead of extending royalties to the wind industry. Declining to extend royalties to the wind energy industry would not necessarily ignore the interest of the state. It is unlikely that any state government, especially Louisiana's, would embrace any measure that prevents it from turning extra profit on an energy lease, considering the substantial profit that the state has historically collected from oil and gas royalties. At first blush, this argument seems to defeat any practicality of the previous arguments proposing that royalties should not extend to wind-based energy. However, this is not necessarily the case. Considering that the wind energy industry is still a considerable gamble in Louisiana, the government's risk, as lessor, in collecting royalty payments is minimal because production is risky. Since royalties, as they currently exist, are directly tied to energy production, the state would not initially be at any disadvantage by foregoing the royalties. If royalties are not applicable to wind energy production, then the wind farm leases can simply absorb the royalty amount. If the wind production proves to be viable and economical in Louisiana, then the tables regarding expense will turn to favor the wind farms.

Energy companies may initially lose money if they compensate the lessor through a set lease amount. However, if production is successful, then the benefit will even out in the long run because the wind companies will not have to pay in proportion to their energy production. This is the equitable solution to the royalty issue, without charging these companies royalties on the actual product from which they prosper—energy. An appropriate model from which to work to develop a fixed lease compensation scheme for the wind industry is the oyster lease

framework that currently exists in Louisiana.[141] A fixed compensation scheme is already effective in the oyster industry, as demonstrated in Scenario 3 (above).[142] Thus, it is not far-fetched that a fixed compensation scheme could be useful in the wind lease context as well.

A valid argument can be made that these concerns could be easily remedied by a phase-in royalty scheme. Under such a scheme, the royalties would start out very low and then gradually rise over time, creating a substantially similar effect as the fixed compensation scheme discussed above. However, a phase-in royalty scheme still fails to address the fundamental differences between oil capture and wind capture.

Adopting a fixed lease scheme similar to the one that exists for oyster leases would provide a workable compromise between the interest of the state and the interest of the developing wind energy companies. The state should be satisfied with generating its compensation from a fixed lease because the wind energy industry has yet to become fruitful in Louisiana. The energy companies should be satisfied because, while they may lose some money initially, wind energy will potentially be very productive, and the money lost will then be balanced out. Thus, a fixed lease compensation scheme is more practical and appropriate than a royalty scheme in the wind energy industry.

In the oyster lease compensation scheme, the oyster lessee is not compensating the lessor for the loss of something; rather, the lessee is compensating the lessor for the use of the land. This fixed compensation scheme is sensible because the oysters are farmed and collected by the lessees each year. Thus, in a sense, oysters are renewable. Each year, a new farm is created and each year new oysters are collected. There is no "reservoir" of oysters waiting to be used up. In this way, wind is actually more akin to oysters than it is oil—wind, like oysters, is renewable. Every day there is new potential for wind; every second brings with it a new reservoir from which wind can be captured. Thus, it is logical to design a wind energy compensation scheme using the current oyster compensation scheme.[143]

To effectively amend the article creating royalties as the

141. *See supra* Section III.C.

142. *See supra* Section III.C.

143. LA. REV. STAT. ANN. § 56:428 (2012); *see also supra* note 133.

appropriate compensation scheme to reflect the oyster fixed-rent scheme, many issues need to be settled. First, the legislature must establish an appropriate timeframe for a wind lease. The term for an oyster lease, fifteen years,[144] is necessarily too short. Thus, the legislators will need to determine what a reasonable timeframe is for a wind lease, considering time for construction and meaningful production. Next, the legislature should allow the lessee to have the right of first renewal, as is the case in oyster leases.[145] This will allow the lessee-wind company to function in confidence of continued operation of the wind facility. Moreover, a precautionary step should be taken for the state that creates automatic renewal if the company neither executes a renewal lease nor opts to terminate the lease.[146] Finally, the fixed price needs to be established through investigation into what will constitute a reasonable price for a wind lease. As in the oyster lease context, it would make sense to fix a certain amount per acre per year in wind leases.[147] This would effectively compensate the state, as owner, for the area used. This is logical because the state's potential access to a resource is not being depleted by the lessee's capture of the mineral. Thus, rather than the state being compensated for what it is losing, it should be compensated for the space that the lessee uses.[148]

This proposal can be generalized to states other than Louisiana.[149] The most prevalent form of compensation for wind energy leases is the payment of royalties,[150] as is the case in

144. LA. REV. STAT. ANN. § 56:428(A) (2012).

145. LA. REV. STAT. ANN. § 56:428(A) (2012).

146. This is also currently a part of oyster leases. *Id.* This will allow the state to keep its property in commerce. This is not inconsistent with current wind lease regulations, where there is also automatic renewal. *Supra* Section III.B.

147. LA. REV. STAT. ANN. § 56:428(C) (2012). The fixed rate of rental for oyster leases is "two dollars per acre per year." *Id.*

148. This is parallel to the current scheme for oyster leases.

149. This proposal would also be useful regarding other renewable resources. While outside of the scope of this Comment, a good argument can be made that renewables call for an onslaught of new legislation that addresses the novel issues that renewables present instead of simply generalizing the existing mineral regulations to renewable energy resources. An interesting issue to explore would be the development of an "element code" to work alongside the mineral code in Louisiana, or general mineral regulations in other states.

150. Robert P. Wright, *General Practice, Approaches, Articles & Issues*, *in* A PRIMER ON WIND LEASES (WITH FORM) 2010, at 18 (26 No. 5 PRAC. REAL EST. LAW. 9) ("The most prevalent form of payment to landowners for producing turbines today is a royalty, *as in oil and gas leases*.") (emphasis added).

Louisiana. For example, Colorado also adopted a royalty compensation scheme for renewable energy sources, including wind.[151] The relevant Colorado statute defines "'[r]enewable energy resources'" as "energy derived from solar, wind, geothermal, biomass, and hydroelectricity."[152] The statute provides that "the leasing arrangements for renewable energy resources development . . . shall include provisions for . . . *royalties on the energy produced through the renewable energy resources*."[153] Moreover, Virginia has similar regulations.[154] The relevant Virginia statute states, "Any lease that authorizes grantees or lessees to (i) prospect for and take from the bottoms covered thereby, oil . . . ; or (ii) generate electrical energy from wave or tidal action, currents, offshore winds . . . and transmit energy from such sources to shore *shall require a royalty*."[155] Maine, however, has addressed alternative energy compensation issues with a fixed rent scheme.[156] Thus, at least one state legislature recognizes the difference between alternatives, namely wind, and oil, and crafted regulations accordingly.[157] As many states have extended oil royalty regulations to the wind industry, the above-stated proposal has nationwide significance.

Of course, some will argue that wind is far more comparable to oil than to oysters because wind, like oil, is an energy source. In its energy-producing quality, wind is much like oil. This is the precise reason that the oil and gas regulatory framework should serve as a starting point for the development of an appropriate wind energy framework. However, wind differs from oil because it is renewable and cannot be measured before it is transformed into usable energy. These qualities distinguish wind from traditional energy sources to an extent that cannot be ignored. Thus, while the oil regulatory schemes should be a starting framework for the legislature, they should not be the exclusive framework from which the legislature works in creating wind energy regulations. The compensation scheme in the wind

151. COLO. REV. STAT. ANN. § 36-1-147.5(2)(b) (2012).

152. COLO. REV. STAT. ANN. § 36-1-147.5(2)(b) (2012).

153. *Id.* at § 36-1-147(6).

154. VA. CODE ANN. § 28.2-1208 (2012).

155. *Id.* (emphasis added).

156. ME. REV. STAT. ANN. tit. 12, § 1862 (2012) ("[T]he annual rent for a wind energy demonstration project for which a general permit has been issued . . . is $100 per acre of submerged lands occupied by the project of the term of the general project, except that the annual rent may not exceed $10,000.").

157. *Id.* at § 1862(1)(B)(6).

industry is one area in which the legislature should diverge from traditional oil regulations and adopt a fixed-lease compensation scheme similar to that used in the oyster industry.

V. CONCLUSION

The United States, along with many other countries, is currently grappling with the changing face of the energy industry. As concern for global warming, dependence on foreign fuel, and a possible energy crisis increases, many individuals, governments, and companies are frantically looking for new ways to produce the energy needed without the cost, both economic and environmental, of traditional energy sources. Renewable energy sources provide a solution to these problems. Wind, in particular, is an incredibly environmentally friendly and overall cheaper method of producing energy than the traditional methods of energy production.

While alternative energy sources such as wind provide the hypothetical solution to the problems caused by traditional energy sources, there are many novel legal issues that are currently arising as a result of the shift toward renewable energy sources. The pursuit of offshore wind energy production is viable in the United States but is as of yet untapped. In order for the United States to investigate the possibility of offshore wind energy, it is necessary to address the multiple legal issues that may arise on the front end through legislation rather than waiting to address them after the wind energy industry takes off. In particular, the individual states need to take initiative to develop regulations for companies to establish wind farms within their state waters (especially considering that so many of the states are coastal). Louisiana, having insufficient wind potential onshore, is in the perfect position to do so because offshore wind farming is the state's only viable option for wind energy production.

In particular, there is a royalty issue that needs to be addressed in Louisiana, and elsewhere. The underlying policy concern that makes royalties appropriate in the oil and gas industry—depletion of a fine reservoir—does not exist in the wind industry. Moreover, the regulations that exist for wind in Louisiana currently impose royalties on the final product that is produced by any wind energy company, a development that is unprecedented in Louisiana and should not stand. The solution to the problem is set lease amounts for wind leases that would

allow the state to profit from the wind energy leases without having to rely on actual production. Further, assuming their endeavors are successful, it will allow the companies to eventually make a greater and more predictable profit from the energy that they produce. In the end, it is the oyster scheme, rather than the oil scheme, that would be most effective for wind energy compensation.

Sarah Y. Dicharry