Alternative Energy Sources: Legislation Interacting With Development and Implementation of Renewable Energy Sources

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Introduction

The United States has placed emphasis on maintaining an active role in the shift toward alternative energy resource development. The different legislative bodies in the country look to nontraditional sources of energy such as solar, wind, biomass, and hydropower in order to reduce pollution and greenhouse gas emissions.[1] These lawmakers have created legislation in order to encourage research and development into renewable energy resources that strive toward sustainable and affordable alternative energy sources.[2] Worldwide, the investment into renewable energy is growing drastically; the United States alone invested $56 billion in 2011.[3] However, that amount of recent investment has yet to make a substantial increase in the overall percentage of energy from renewable resources.[4] Compared to fossil fuels, only 10 percent of the electricity used in the United States is sourced from renewable energy.[5]

The existing innovation policies from the U.S. Energy Information Administration purport that by the year 2030, 30 percent of the new energy capabilities developed will come from renewable resources; however, that amounts to only 16 percent of the country's total energy use.[6] The rate at which the development and implementation of renewable resource

[1] Derek Bertsch, *When Good Intentions Collide: Seeking a Solution to Disputes Between Alternative Energy Development and the Endangered Species Act*, 14 SUSTAINABLE DEV. L.J. 74 (2011).
[2] Patricia Salkin, *The Key to Unlocking The Power of Small Scale Renewable Energy: Local Land Use Regulation*, 27 J. LAND USE & ENVTL. L. 339 (2012).
[3] Anne Havemann, *Surviving the Commerce Clause: How Maryland can square its Renewable Energy Laws with the Federal Constitution*, 71 MD. L. REV. 848 (2012).
[4] Uma Outka, *Environmental Law and Fossil Fuels: Barriers to Renewable Energy*, 65 VAND. L. REV. 1679, 1680 (2012).
[5] *Id*.
[6] *Id*. at 1681.

capabilities has gained much attention.[7] The attention focuses on how legislation affects the growth of development.[8] The growth is slow, and in recent years the United States has been surpassed by China in the amount of dollars invested into renewable resource innovation. [9] This could threaten the United States' position as a world leader in renewable resource innovation. This report examines the relationship between legislation and the development of alternative energy sources.

Legislation affects the growth of alternative resource development in several ways. Some legislation aims at encouraging innovation and creating growth among the implementation of such energy sources. However, some of the legislation influencing renewable resource development deters growth and delays implementation.[10]

The legislation and policies that aid in creating new development of alternative energy sources include tax incentives, permit incentives, and regulations governing existing practices.[11] For example, the Pennsylvania Alternative Energy Investment Act provides funding to clean alternative energy projects among businesses, non-profit organizations, and local governments.[12] Legislation that hinders development can be divided into two problems: first, laws that do not support alternative energy but instead support fossil fuel sources, and the second involves the lagging development of new law to drive innovation.[13] These interactions form a complex relationship between legislation and alternative energy. This relationship is important to examine

[7] *Id*. at 1681.
[8] *Id*. at 1681.
[9] Leah Chacon, *Long-Term Contracting the way to Renewable Energy Investment: Lessons from Brazil Applied to the United States*, 62 EMORY L.J. 1563, 1566 (2013).
[10] *Id*. at 1567; Outka, *supra* note 4, at 1681.
[11] Salkin, *supra* note 2, at 339–340.
[12] Robert Reiley, *The Intersection of Innovation, Law, and Policy: Financial Incentives and the Leadership Role Taken by Pennsylvania and Other States to Bring Green Energy to the Free Market,* 18 WIDENER L.J. 897, 905 (2009).
[13] Outka, *supra* note 4, at 1681.

because the alternative energy industry is growing and because this area of the law is changing rapidly.[14]

Financial Incentives

Financial incentives are some of the most widely used policies that attempt to aid the development of alternative energy resources. Federal, state, and local governments each use financial incentives in order to encourage development of alternative energy resources.[15] These incentives include rebates, grants, loan programs, and tax credits for both businesses and individuals.[16]

The federal government, for instance, enacted the American Recovery and Reinvestment Act of 2009[17] and created the Residential Renewable Energy Tax Credit,[18] and the Better Buildings Initiative.[19] The Better Buildings Initiative increases tax deductions and loans for those willing to renovate existing buildings.[20] While the Residential Renewable Energy Tax Credit provides tax credits for citizens that source up to 30% of their energy from alternative sources, tax credits for purchasers of small scale wind power systems.[21] The American Recovery and Reinvestment Act of 2009, in addition to attempting to stimulate the market in general, it granted $36 billion energy efficiency and renewable energy programs, and tax credits accounted for $20 billion of the total.[22]

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[14] *Id.*
[15] Salkin, *supra* note 2, at 40.
[16] *Id.* at 341; David Missirian *Let the Sun Shine in: an Examination of Solar Easements and a Proposed Statute,* 41 REAL EST. L.J. 303, 303 (2012); Reiley, *supra* note 12, at 920.
[17] American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115.
[18] 26 U.S.C. § 25D (2014).
[19] Press Release, White House Office of Media Affairs, President Obama's Plan to Win the Future by Making American Businesses More Energy Efficient through the "Better Buildings Initiative" (Feb. 3, 2011), *available at* http://www.whitehouse.gov/the-press-office/2011/02/03/president-obama-s-plan-win-future-making-american-businesses-more-energy.
[20] 26 U.S.C. § 25D (2014).
[21] *Id.*
[22] Reiley, *supra* note 12, at 919.

Most states have adopted Renewable Portfolio Standards (RPS) Programs[23] that drive the alternative energy market. An RPS is a goal or direction to achieve a certain percentage of ~~its~~ electric energy from renewable resources.[24] These standards are expected to raise alternative energy sourcing exponentially: up to 250 percent in the next fifteen years.[25] Oregon, for instance, has made a goal to raise its alternatively sourced generation from five percent to 25 percent by the year 2025.[26] Many of the most populous states, including Michigan, Texas, North Carolina, Washington, and California use their RPSs in order to promote energy efficiency as well as production.[27] North Carolina is unique in that it places a harsh standard on energy efficiency projects: in order to "count toward RPS requirements in North Carolina, an energy efficiency project must result in an actual decrease in consumption."[28]

Legislation from state government represents a direct opportunity to influence alternative energy development and tends to be more effective than legislation at the federal level. As far as financial incentives are concerned, the states also implement grants, loans, and tax credits.[29] Many states have taken measures to include small-scale investments or businesses in their RPS programs. For example, Colorado offers a property tax exempt status to owners of solar-powered generation systems not used for profit.[30] In an attempt to increase the purchases of equipment in

[23] Salkin, *supra* note 2, at 347; Havemann, *supra*, note 3, at 848 (stating that as of 2012, 29 states have adopted an RPS).
[24] Havemann *supra*, note 3, at 849.
[25] *Id*.
[26] Salkin, *supra* note 2, at 347.
[27] Gary D. Allison and John Williams, *The Effects of State Laws and Regulations on the Development of Renewable Sources of Electric Energy*, NAT'L ENERGY POL'Y INST. 150–53 (December 2010), *available at* http://nepinstitute.org/wp-content/uploads/2010/12/RFF-NEPI-AllisonandWilliams-StateLaws.pdf.
[28] *Id*. at 151.
[29] Havemann *supra*, note 3, at 905; Marla Carew, *Promotion of Alternative Energy Technologies Through Michigan Tax Credits and Incentives*, 35 MICH. TAX LAWYER 20 (2009) *available at* http://www.varnumlaw.com/files/documents/publications/Promotion_of_Alternative_Energy_Technologies.pdf.
[30] Salkin, *supra* note 2, at 341.

relation to the manufacture of solar power generators, Washington has given a sales tax exemption.[31]

Local governments tend to focus their financial incentives on residents.[32] Most funding creates tax credits or rebates given (or made available to) to residents.[33] Residents who qualify are those who install or home equipment that offsets consumption and costs, such as solar water heating systems and geothermal energy generators.[34]

Permit Incentives

Policymakers use financial incentives as an attempt to stimulate the growth of alternative energy resources. However, without the necessary permits and provisionary incentives within zoning and permit regulations these financial incentives would not be nearly as effective as they would not have nearly as much involvement.[35]

Permitting incentives help to make the financial incentives more effective by streamlining permit requirements and applications for projects involving renewable energy,[36] often creating a "one stop" approach to the permitting system.[37] In order to be advantageous to alternative energy development these incentives are only available to projects involving the use of renewable resources.[38] The federal government offers a fast track process in granting renewable energy loans.[39] However, much of the activities involving permitting incentives do not involve the federal but the local and state levels of government.[40] Many localities provide

[31] *Id*. at 342.
[32] *Id*. at 343–44.
[33] *Id*.
[34] *Id*.
[35] *Id*. at 344.
[36] Allison, *supra* note 27, at 143.
[37] *Id*.
[38] *Id*.
[39] Salkin, *supra* note 2, at 343–44.
[40] *Id*.

permitting incentives.[41] For example, cities such as Asheville, North Carolina, Miami, Florida, and Portland, Oregon offer shortened application processes, reduced or waived building applications, and permit fees.[42]

Net Metering

Net metering is the process by which consumers sell their unused or excess energy generated through renewable means back to their traditional electric energy provider.[43]Net metering and easement requirements also increase residents' involvement in the implementation of renewable resources.[44] Most states have passed legislation requiring net metering when residents generate some or all of their electricity; some, including New York, have expanded net metering to businesses.[45] Net metering allows consumers to store their excess production with their traditional electric energy provider by enabling them to receive backup power, when needed, if they had previously sold excess energy to their electric energy producer.[46] These consumers can then gain rebates at the end of their billing period if they have produced a "net surplus of energy";[47] thus, consumers are only charged for electric energy if they do not produce more energy than they use.

Easements

Many states have also implemented the use of easements to maximize the development of consumer-generated energy.[48] Depending on the state, easement laws allow either a voluntary

[41] *Id*.
[42] Salkin, *supra* note 2, at 346.
[43] Allison, *supra* note 27, at 6.
[44] *See* Salkin, *supra* note 2 at 348; *see generally* Allison, *supra* note 27, at 6.
[45] Allison, *supra* note 27, at 6.
[46] *Id*.
[47] Salkin, *supra* note 2, at 348.
[48] Alexander Klass *Property Rights on the New Frontier: Climate Change, Natural Resource Development, and Renewable Energy*, 38 ECOLOGY L.Q. 63, 92 (2011).

contract or the state will require one in order to secure the effectiveness of the alternative energy generators which a person may own.[49]

However, Easements dealing with property rights could create disputes that on occasion delay the implementation of small-scale alternative energy. These easements could prevent planting trees or vegetation in places blocking sunlight[50] or the placing of wind turbines too close together, which could interfere and inhibit the energy generated.[51] Many of the same disputes arise with financial and permit incentives, such as when businesses or electricity providers fail to meet the requirements of the incentives after receiving the benefits.[52] In addition to these conflicts, there are many instances in which regulations conflict with existing law such as the Commerce Clause[53] and the Endangered Species Act.[54] These disputes and conflicts delay or deter many attempts by the United States to develop and implement the possible alternative energy resources available.

Legislation That Hinders Alternative Energy development

In some instances, the policies used to support alternative energy sources actually hinder them. These regulations make alternative energy resources more competitive with existing energy sources.

Retail Market Strategies

One way that state and federal legislators attempted to create competitive retail and wholesale energy markets was to "unbundle" the generation, distribution, and transmission of electric energy.[55] This process attempted to make electric energy companies separate the

[49] *Id*. at 98; Missirian, *supra* note 16, at 319.
[50] Missirian, *supra* note 16, at 310.
[51] *Id*. at 317; Klass, *supra* note 48, at 104.
[52] Outka, *supra* note 4, at 1689.
[53] *See* Havemann, *supra* note 3, at 852.
[54] *See* Bertsch, *supra* note 1, at 76.
[55] Allison, *supra* note 27, at 6.

different parts of energy production to open up lanes and allow alternative energy providers into the market.[56] At the commencement of the retail market policy, many of the electric companies were not able to meet the unbundling requirements of the new retail market.[57] Thus, some energy providers were given exception to use the previous customary practices in order to cover the gap in energy production for consumers at a discounted rate.[58] These discounted rates set prices below those of the retail market entities and discouraged new competition,[59] thus leading to a less competitive market for alternative energy producers.

Other legal barriers to alternative energy development can be broken down into two categories: existing law that conflicts with development policies and new ineffective laws that do not offer a unified approach.[60]

Legislation Intended to Aid Development

Legislation intended to aid alternative energy development can sometimes act as a hindrance to implementation.[61] Environmental law has primarily developed as an accumulation on top of existing legislation that regulates energy production as a whole.[62] This system of simply adding to the existing statutes and regulations leads to a lag in the development of law supporting alternative energy.[63] This accumulation of laws is ineffective as the preexisting laws regulating energy rarely address renewable resources.[64] The laws in support of renewable energy development rarely set the same standards for multiple states in a region, and thus lead to many regional companies having to adapt to the requirements of each state, creating an inconvenient

[56] *Id*.
[57] *Id*.
[58] *Id*.
[59] *Id*.
[60] Outka, *supra* note 4, at 1682.
[61] *Id*. at 1683.
[62] *Id*. at 1686.
[63] Chacon, *supra* note 9, at 1567.
[64] Outka, *supra* note 4, at 1695–96.

complexity for investors.[65] Tax incentives, for example, expire at different times depending on the technology being implemented.[66]

Tax incentives present a primary barrier to alternative energy development,[67] particularly the Renewable Energy Production Tax Credit (PTC).[68] PTCs were created by the Energy Policy Act of 1992 and extended in the American Recovery and Reinvestment Act of 2009.[69] These tax credits were intended to stimulate the renewable resource market by providing a tax credit for producers of wind, biomass, and geothermal energy.[70] There are many disconcerting problems with tax incentives in regards to their effectiveness.[71] While tax credits such as PTC certainly stimulate investment, they also "distort market prices and behavior because they encourage investments based on the tax savings rather than on the activity's merit."[72] In addition to distorting prices, tax credits, which are based on income, also exasperate financial inequality among energy producers.[73] This inequality is partly because larger corporations are able to get more tax credits because they have a higher income.[74] Corporation with substantial investment capital are better suited to take advantage of tax, while smaller investors have much less capital to invest.[75]

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[65] Chacon, *supra* note 9, at 1575.
[66] *Id*. at 1580.
[67] Outka, *supra* note 4, at 1691.
[68] *Id*.
[69] Michael Haun & Kevin Young, *An Overview of Federal Tax Incentives for Green Technology,* BLOOMBERG FLAW REPORTS 1-2 (2010), *available at* http://www.paulhastings.com/Resources/Upload/Publications/1490.pdf.
[70] *Id*.
[71] *Id*.
[72] Chacon, *supra* note 9, at 1581.
[73] *Id*. at 1582.
[74] *Id*.
[75] *Id*.

Preexisting legislation

Preexisting law often forms a barrier to the development of alternative sources of energy by conflicting with the new legislation[76] or by requiring a daunting and complex process to implement the renewable resource technology available.[77] Laws that have recently presented a hindrance to the development of alternative energy sources include, but are not limited to, the Clean Air Act (CAA), the Clean Water Act (CWA), the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), and the Public Utility Regulatory Policy Act (PURPA).[78] The CAA and CWA, in some instances, create an unequal footing for competition between traditional and alternative energy producers. For example, in 1970 the older fossil fuel energy producers were "grandfathered" into the act to ease the transition.[79] This exemption allows fossil fuel facilities commissioned prior to 1970 to operate outside of the requirements of CAA and CWA, while any new alternative energy developments must comply with those Acts.[80] Preexisting energy production facilities were given more lenient emissions standards than new ones; even in 1990 when congress amended the CAA in order to address this issue the older facilities were still allowed a more lenient standard.[81]

In addition, alternative energy projects often have an extraneous site certification process because the developments must receive an environmental assessment from the Army Corps of Engineers[82] and have "no significant impact" on endangered species.[83] This proves difficult at

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[76] Adam Dinnel & Adam Russ, *The Legal Hurdles to Developing Wind Power as an Alternative Energy Source in the United States: Creative and Comparative Solutions*, 27 NW. J. INT'L L. & BUS. 535, 545 (2007).
[77] Anthony Bova, *What's the Holdup? How Bureaucratic Obstacles are Undercutting the True Potential of American Wind Power*, 46 SUFFOLK U. L. REV. 571, 576.
[78] *Id*. at 580; Chacon *supra* note 9, at 1575; Dinnel *supra* note 76, at 545–561; Outka *supra* note 4, at 1701–1708; Bertsch *supra* note 1, at 74.
[79] Outka, *supra* note 4, at 1705–1708.
[80] *Id*.
[81] *Id*.
[82] Dinnel, *supra* note 76, at 551.
[83] *Id*.; Bova, *supra* note 77, at 580; Bertsch, *supra* note 1, at 74.

times because many of the areas where renewable resources are most available contain endangered species protected by the ESA.[84]

PURPA once stimulated investment in alternative energy resources, but like many other Acts, it now inhibits growth.[85] PURPA was meant to break the monopoly that traditional fuel sources providers held on the energy market by creating exemptions for facilities producing alternative energy and requiring electric utilities to purchase energy from these facilities at a price favorable to the qualifying facility.[86] However, the exemptions became a major point of contention with opposition to alternative energy facilities.[87] Those opposing the PURPA exemptions cite the intermittent nature of renewable resources prevents alternative energy providers from consistently providing energy to the public and therefore should not be given an advantageous position over traditional fuel sources.[88]

Conflict with Legislation

State Renewable Portfolio Standards are great examples of how the two categories of barriers can act as obstructions to development and implementation.[89] There is no national RPS, and each state is able to create its own RPS, creating a patchwork of standards that can wildly differ.[90] This in turn leads to an ineffectual implementation of the RPSs.[91] Electric energy providers that serve more than one state often have to ensure that the electricity they provide meets the requirements of all of the states.[92] American Energy Power, for example, serves eleven

[84] Bertsch, *supra* note 1, at 74.
[85] Chacon, *supra* note 9, at 1577; Bova, *supra* note 77, at 576.
[86] Bova, *supra* note 77, at 577.
[87] *Id*. at 578.
[88] *Id*. at 578.
[89] Chacon, *supra* note 9, at 1585.
[90] *Id*. at 1594.
[91] *Id*.
[92] *Id*. at 1586.

states: three have RPS requirements, but the others do not.[93] By creating more complex requirements and compliance costs, the individual RPSs create higher prices.[94] In addition to inflating costs, RPSs often create conflicts with existing law and therefore are unstable as they have been changed or even partially struck because of lawsuits.[95]

These lawsuits generally concern the Commerce Clause of the U.S. Constitution.[96] At this time, there is a growing trend of plaintiffs claiming that RPSs are unconstitutional, in part or wholly based upon the Commerce Clause. These cases have risen out of such states as Colorado, Massachusetts, Minnesota, Oklahoma, and Missouri.[97] In *Trans Canada v. Bowles*,[98] a developer and wholesaler of renewable energy challenged § 83 and § 32 of the Green Communities Act, 2008 additions to the Massachusetts state RPS.[99] Those sections of the Act required energy providers to enter into long-term contracts to generate renewable energy and barred energy providers from using out-of-state generating capabilities to meet the required RPS standards.[100] The case ultimately settled, and Massachusetts amended its 2008 provisions.[101] However, the Massachusetts case and the Colorado litigation[102] represent a possibility of more attacks on state RPSs as they could point out potential weaknesses in conflict with the Commerce Clause.[103]

Conclusion

These attacks on state RPSs could be indicative of many more to come. Many authors believe that the RPSs could survive, given proactive involvement by the states to preemptively

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[93] *Id.*
[94] *Id.*
[95] *Id.*; Havemann, *supra* note 3, at 850.
[96] Havemann, *supra* note 3, at 849.
[97] *Id.* at 860. Chocan, *supra*, note 7, at 1586; Daniel Lee & Timothy Duane *Putting the Dormant Commerce Clause Back to Sleep: Adapting the Doctrine to Support State Renewable Portfolio Standards,* 43 ENVTL. L. 295 (2013).
[98] Complaint, TransCanada Power Marketing v. Bowles et al., No. 4:10-cv-40070-FDS (C.D. Mass. April 16, 2010), *available at* http://www.ohiogreenstrategies.com/documents/transcanada.pdf.
[99] Havemann, *supra* note 3, at 861.
[100] *Id*.
[101] *Id*.
[102] Am. Tradition Inst. v. Colorado, No. 11–cv–00859–WJM–KLM, 2011 WL 3705108 (D. Colo. Aug. 23, 2011).
[103] Havemann, *supra* note 3, at 861.

revisit their policies in preparation of defense against these attacks.[104] Legislation has developed in an attempt to drive innovation and the implementation of alternative energy facilities. This legislation has been successful in many instances. However, at times, the laws in support of alternative energy have become a hindrance to development by creating a myriad of differing regulations, which provide unstable grounds to implement alternative energy projects. In many instances, preexisting legislation may hinder development as well. There are many ways in which legislation dictates development, and even though there are attacks on RPSs that may become systematic pending the outcome of the Colorado case, there is an opportunity for states to revise legislation to drive development while avoiding constitutional challenges such as defending themselves against attack based on the Commerce Clause.

[104] *Id*. at 885; Lee & Duane, *supra* note 97, at 364.