THE TROJAN HORSE OF ELECTRIC POWER TRANSMISSION LINE SITING AUTHORITY

BY

JIM ROSSI*

Reform proposals pending in the U.S. Congress would increase federal and regional authority to preempt states in siting transmission lines in order to allow the development of a high-voltage transmission grid for renewable resources. This Article recognizes the inadequacy of existing state siting authority over transmission but takes a skeptical approach to expanding federal siting jurisdiction as a solution to the problem, and argues that the over-attention to transmission line siting authority is a bit of a Trojan horse in the climate change debate. Specifically, because it ignores the more difficult issues of how the costs and benefits of transmission are balanced and how it will be paid for, expanding federal siting jurisdiction alone will not remove barriers to transmission infrastructure and may present some hidden problems of its own. Legislative focus on enhancing federal authority over transmission lines has confused responsibility for this issue, further delaying federal administrators and regional bodies from taking proactive approaches that they currently possess authority to implement. Further, transmission siting authority reforms can actually undermine climate change goals if they do not contemplate regulators' consideration of the full costs and benefits associated with a project. Reforms must also assess how the costs of transmission will be allocated and priced. Failure to do these things can make transmission siting authority a Trojan horse in the climate change debate—masking fundamental issues that could harm the climate and keeping reformers from focusing on the more serious barriers faced by the large-scale development of renewable resources.

* Harry M. Walborsky Professor and Associate Dean for Research, Florida State University College of Law. The author may be reached at jrossi@law.fsu.edu. Thanks to participants in Lewis & Clark's April 2009 *Greening the Grid* conference for comments on a presentation that influenced the structure and content of this Article.

I. INTRODUCTION

Heightened attention to climate change has highlighted the need for substantial growth in new, non-fossil fuel sources of electric power generation. It is well recognized that a growth in renewable resources of electricity, such as wind turbines, biomass, and large-scale solar, will be a major component of any solution to the greenhouse gas problem.[1] One barrier, however, is the relative isolation of many of the nation's renewable energy resource riches; many opportunities for large-scale development of renewable energy resources are located in areas that are geographically remote and distant from large metropolitan areas in which the demand for electricity is greatest.[2] Existing transmission infrastructure is not adequate to accommodate new renewable resources in many parts of the United States, and existing efforts to expand transmission are also not sufficient.[3]

[1] CHARLES WEISS & WILLIAM B. BONVILLIAN, STRUCTURING AN ENERGY TECHNOLOGY REVOLUTION 3–4 (2009). Renewable resources will be just one component of any solution to climate change. It is well recognized that attention to new renewable sources of electric power alone will not solve the problem with climate change, given the U.S. and world dependency on fossil fuels as sources of energy. *Id.* at 2–4. Any solution must also address existing carbon sources.

[2] Cathy Cash et al., *Senate Tries a Push for Big-Picture Grid Plans, Though 'Shovel-Ready' Projects Still a Question*, ELECTRIC UTIL. WKLY., Feb. 2, 2009, at 1, 34–35. In this Article, I distinguish between large-scale development and small-scale deployment of renewable resources. Both are important. However, the transmission infrastructure that will be needed for large-scale development of renewable resources is not required for smaller-scale applications of these resources, such as individual wind turbines and solar panels on homes and commercial establishments. Because most smaller-scale development is focused on reducing consumer energy demand, not on the production and distribution of energy, *see, e.g.*, The Renewable Energy Res. Ctr., Vt. Dep't of Pub. Serv., Small Scale Renewable Energy Incentive Program FAQ, http://www.rerc-vt.org/incentives/faq.htm#2 (last visited Nov. 15, 2009) (explaining the reasons for developing small-scale energy in Vermont), I discuss smaller-scale deployment below under the rubric of efficiency, conservation, and demand reduction initiatives.

[3] Cash et al., *supra* note 2, at 35. It should not be ignored that, under the present system, many utilities have invested in transmission upgrades to meet transmission needs associated

For these reasons, the Obama Administration and leaders in Congress have given new attention to expanding transmission infrastructure for purposes of serving a new phase of development of renewable power sources.[4] A common metaphor used to describe such proposals is to invoke the comparison to a superhighway road transportation system, such as the interstate highway system that was financed and built by the federal government in the twentieth century.[5] With the interstate highway system, at the outset federal regulators had a clear sense of where highways would be located and could exercise the power of eminent domain where necessary to acquire the property rights to build them.[6] In a similar manner, most attention in the debates over building transmission lines has focused on the issue of the legal authority for siting transmissions.[7] The determination of siting—or the location of a line and its approval, including eminent domain authority—remains largely within the hands of state regulators.[8] Major bills pending in Congress would increase federal and regional power to preempt states in siting transmission lines.[9] To date, the largest debate surrounding these proposals is between federal authorities, who see a need for expanding federal power to preempt states, and state and local officials, who wish to preserve their historical role in siting transmission lines.[10]

with the development of renewable resources. The Edison Electric Institute estimates that its members invested nearly $37 billion from 2001 to 2007 in transmission infrastructure improvements for such needs. *See* EDISON ELEC. INST., TRANSMISSION PROJECTS SUPPORTING RENEWABLE RESOURCES, at iii (2009), *available at* http://www.eei.org/ourissues/Electricity Transmission/Documents/TransprojRenew_web.pdf. While not trivial, this amount of investment pales in comparison to the hundreds of billions it is estimated that upgrades to the U.S. transmission infrastructure will cost. *Building the Smart Grid*, ECONOMIST TECH. Q., June 6, 2009, at 15, 17.

4 Cash et al., *supra* note 2, at 1, 34–35. Much of this effort also focuses on so-called "smart grids," or more efficient and intelligent ways of transporting and distributing electric power. Most smart grid efforts are focused on power distribution and metering. Rick Morgan, *Rethinking 'Dumb' Rates*, PUB. UTIL. FORT., Mar. 2009, at 34, 35. However, some efforts involve improving the efficiency and intelligence of high-voltage transmission. *Building the Smart Grid*, *supra* note 3, at 15. A full discussion of these efforts is beyond the scope of this Article.

5 Renewable energy interest groups have used the superhighway metaphor in advocating for expanded federal authority over the transmission grid. *See* AM. WIND ENERGY ASS'N & SOLAR ENERGY INDUS. ASS'N, GREEN POWER SUPERHIGHWAYS: BUILDING A PATH TO AMERICA'S CLEAN ENERGY FUTURE 1, 4 (2009), *available at* http://www.awea.org/GreenPowerSuperhighways.pdf. President Obama himself has also referred to "a national transmission superhighway that will connect our cities to the windy plains of the Dakotas and the sunny deserts of the Southwest." President Barack Obama, Remarks on Signing the American Recovery and Reinvestment Act of 2009 in Denver, Colorado (Feb. 17, 2009), *available at* http://www.gpoaccess.gov/presdocs/2009/DCPD200900087.pdf.

6 *See generally* Fed. Highway Admin., U.S. Dep't of Transp., Interstate System Design, http://www.fhwa.dot.gov/programadmin/interstate.cfm (last visited Nov. 15, 2009) (describing the history of the interstate highway system).

7 *See* discussion *infra* Part III.

8 *See* Ashley C. Brown & Damon Daniels, *Vision Without Site; Site Without Vision*, ELECTRICITY J., Oct. 2003, at 23, 24; *see also infra* note 14 and accompanying text.

9 *See infra* Part III.B.

10 See *infra* Part III.B for a discussion of the common theme shared by solutions currently pending before Congress.

In this Article, I recognize the inadequacy of existing state law, but take a skeptical approach to expanding federal siting jurisdiction as a solution to the problem and argue that the over-attention to transmission line siting authority is a bit of a Trojan horse in the climate change debate. Specifically, because existing state laws ignore the more difficult issues of how the costs and benefits of transmission are balanced in the interstate market, and how new transmission will be paid for, siting jurisdiction alone will not remove barriers to transmission infrastructure and may present some hidden problems of its own. The Article proceeds in three parts. Part II discusses how state siting statutes can serve as a barrier to siting new transmission lines for wholesale power markets and renewable sources, and discusses the need for some legal solution to this problem. Part III discusses existing federal law on the matter, highlighting how there is already substantial authority at the federal level that remains underutilized and highlighting pending reforms. The political rhetoric surrounding these reforms is highly polarized between advocates for expanding federal authority to preempt state eminent domain powers and advocates for retaining states' rights. Part IV argues that continued legislative attention on enhancing federal authority over transmission lines has confused responsibility for this issue, further delaying federal administrators and regional bodies from taking proactive approaches that they currently possess authority to implement. Further, as Part IV highlights, transmission siting authority reforms can actually undermine climate change goals if reforms do not contemplate regulators' consideration of the full costs and benefits associated with a project. They must also assess how the costs of transmission will be allocated and priced. Part V concludes with the cautionary note that a failure to do these things can make transmission siting authority a Trojan horse in the climate change debate—masking fundamental issues that could harm the climate and keeping reformers from focusing on the more serious barriers faced by the large-scale development of renewable resources.

II. THE PROBLEM WITH THE STATUS QUO OF STATE TRANSMISSION SITING LAWS

In the twentieth century, the U.S. transmission grid was largely planned, financed, and built by privately owned, vertically integrated utilities.[11] As a single firm that produced generation and owned transmission—and which was regulated based on cost of service—the vertically integrated firm faced little incentive to expand transmission for any purpose other than to serve its own customers.[12] A firm owning transmission and expanding capacity could be opening up its own power generation assets to new supply competitors. Transmission congestion thus may have helped the firm to maximize its monopoly power. Moreover, given that the "line loss" associated with early generation, high-voltage transmission lines was fairly significant,

11 LEONARD S. HYMAN ET AL., AMERICA'S ELECTRIC UTILITIES: PAST, PRESENT AND FUTURE 111 (8th ed. 2005).

12 *See id.* (describing the pressures and incentives that motivated public utilities' actions).

most utilities saw it as most economical to locate generation facilities fairly close to customer demand, rather than hundreds of miles away.[13]

The infrastructure decisions of the vertically integrated utility, including whether and where to build transmission lines, were regulated by state and local authorities. Today, about thirty states have "siting statutes" or something approaching a state siting law, while many other states continue to rely entirely on local land use, along with utility eminent domain powers, to site transmission lines.[14] State siting laws have historically focused on two distinct sets of issues: 1) regulators' determination of operational and economic "need" for a transmission line, and 2) an assessment of the environmental impacts of building a power line.[15] This Part describes how states addressed these two issues and highlights how existing state authority has not been sufficient to address either competitive wholesale markets or broader climate change goals.

A. Need Determinations

Historically, state and local regulators have focused on determining the "need" for a power line before giving siting approval and extending the power of eminent domain to an applicant.[16] The need determination at the state level has historically balanced various interests within individual states, with the primary motivation of protecting in-state customers and ensuring that any new transmission line that was approved would benefit them.[17] On the one hand, customers did not want to see utilities invest in wasteful projects, and the need determination served to ensure that the need for power transmitting over a new line was justified in light of alternatives, including conservation and improved efficiency at the local level. On the other hand, customers had an interest in seeing facilities expand in order to enhance the reliability of the system serving the customers within that state.

New York's "need" determination statute provides an example of the narrow historical scope of state need determinations. Persons preparing to construct a major utility transmission facility are required to obtain a certificate of environmental compatibility and public need issued by the

---

13 Line loss is largely a function of voltage on transmission lines. In 1995, line loss for the U.S. transmission system was estimated at 7.2%. U.S. CLIMATE CHANGE TECH. PROGRAM, TECHNOLOGY OPTIONS FOR THE NEAR AND LONG TERM 34 (2003), *available at* http://climatetechnology.gov/library/2003/tech-options/tech-options-1-3-2.pdf. New technologies, such as high-voltage direct current transmission lines, promise much more efficient transmission than existing technologies, but these lines have yet to be deployed on a wide-scale basis. *See id.*

14 Brown & Daniels, *supra* note 8, at 23–24.

15 Ashley C. Brown & Jim Rossi, *Siting Transmission Lines in a Changed Milieu: Evolving Notions of the "Public Interest" in Balancing State and Regional Considerations*, 81 COLO. L. REV. (forthcoming 2010) (manuscript at 1–6, 11–13), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1444111 (follow "Download" hyperlink; then follow "SSRN" hyperlink); *see, e.g.*, N.Y. PUB. SERV. LAW § 126 (McKinney 2000).

16 *See* Brown & Daniels, *supra* note 8, at 24.

17 *See id.* at 24–25.

Public Service Commission (PSC).[18] PSC may not grant a certificate unless it has found and determined several factors, including "the basis of the need for the facility."[19] Need is not explicitly defined, and other factors to be considered by PSC include the "nature of the probable environmental impact,"[20] the project's conformity with other state and local laws and regulations,[21] and "public interest, convenience, and necessity."[22]

Since such statutes were adopted in an era in which the vertically integrated utility with a duty to serve customers was the norm,[23] state regulators commonly face a variety of limitations, including statutory limitations, in what they consider in determining the need for a plant. Need assessment is typically approached from the perspective of ratepayer benefits, with an emphasis on native customers.[24] Many states limit applicants for "need" to incumbent utilities or firms possessing contracts with incumbent utilities.[25] Even where nonutilities can submit an application to build a transmission line, many states do not extend the power of eminent domain to nonutilities. For example, in Colorado only utilities are expressly granted the ability to exercise condemnation rights;[26] New Mexico similarly permits only public utilities to exercise eminent domain powers;[27] and in Wyoming only utilities that obtained a certificate of convenience and necessity (CPCN), may use condemnation.[28]

This state system for making an independent need determination for transmission line siting may have worked well under vertical integration and rate regulation. In this context, however, it also may have served little purpose apart from allowing for an eminent domain approval. Since under cost-of-service rate making most power transmission lines were included in the retail rate base,[29] state regulators could have disallowed the costs of

18 N.Y. PUB. SERV. LAW § 122(1) (McKinney Supp. 2009).

19 *Id.* § 126(1)(a) (McKinney 2000).

20 *Id.* § 126(1)(b).

21 *Id.* § 126(1)(f).

22 *Id.* § 126(1)(g).

23 Brown & Daniels, *supra* note 8, at 25.

24 Since the need determination was made by state regulators—often the same regulators approving cost-of-service rates—the benefits to in-state customers were a primary consideration, while benefits to out-of-state customers were secondary or may have been prohibited by state law. *See infra* notes 51–56 and accompanying text.

25 Tampa Elec. Co. v. Garcia, 767 So. 2d 428, 434–36 (Fla. 2000).

26 COLO. REV. STAT. §§ 32-12-125, 38-1-202 (2008).

27 N.M. STAT. ANN. § 62-1-4 (2004). It should be noted, however, that New Mexico has created the New Mexico Renewable Energy Transmission Authority (NMRETA), a state transmission authority created for the express purpose of providing transmission service for the export of the state's renewable energy generation. *See id.* § 62-16A-4 (Supp. 2009). While the NMRETA statute did not create any new powers of eminent domain, as an agency of the state, NMRETA can, in fact, exercise condemnation powers in order to obtain needed right-of-ways. *See id.*

28 WYO. STAT. ANN. §§ 1-26-815 (2009). The Wyoming Infrastructure Authority may use eminent domain powers to acquire right-of-ways for new transmission, although it may not use those powers to acquire existing assets. *Id.* §§ 1-26-815 to -816.

29 *See, e.g.*, Chales J. Cicchetti & Colin M. Long, *A Brief History of Rate Base: Necessary Foundation or Regulatory Misfit?*, PUB. UTIL. FORT., July 2006, at 42, 42–43 (describing the method of setting utility rates).

uneconomic transmission that, on balance, did not benefit customers. Rate hearings may have provided a forum for regulators balancing the same interests as in a need proceeding, but a determination of need was a way for a utility to obtain preapproval for its proposed facilities independent of a rate hearing; apart from this, the only other benefit of the process was to allow the successful utility applicant to exercise the power of eminent domain.

B. Environmental Concerns

State transmission siting laws also typically pay some attention to environmental impacts. However, since eminent domain is the main legal significance of a siting approval, the focus of environmental concerns is commonly limited to local environmental impacts. New York's statute, for example, requires regulators—in addition to determining the nature of the probable environmental impact—to make a finding that the facility "represents the minimum adverse environmental impact," with a focus on "the effect[s] on agricultural lands, wetlands, parklands and river corridors traversed."[30] One set of concerns relates emissions and pollution associated with new transmission lines,[31] but this is seldom where debate over transmission line siting is focused. Instead, the vast majority of the debate in transmission line siting proceedings is focused on impacts to local landowners and other not-in-my-backyard concerns.

In many recent siting proceedings, the environmental and land owner opposition to a proposed line has been formidable, resulting in frequent delays to a project and sometimes to the project never being built. For example, several years ago the state of Connecticut strongly opposed the Cross-Sound Cable, a twenty-three mile merchant (nonutility) transmission line that was proposed to allow Long Island Power Authority to import power from New Haven, Connecticut.[32] Connecticut regulators cited environmental concerns in support of their opposition to the project, such as impacts on shellfish beds and dredging operations in the New Haven Harbor,[33] even though it was established that the project complied with the minimal requirements in all state siting and environmental statutes.[34] Connecticut's attorney general, backed by environmental interest groups and a major incumbent utility serving Connecticut customers (Northeast Utilities, which owns an older, parallel transmission line), aggressively opposed state approval of the project and threatened litigation if the Cross-

30 N.Y. PUB. SERV. LAW § 126 (McKinney 2000).

31 *Id.*

32 *Regional Energy Reliability and Security: DOE Authority to Energize the Cross Sound Cable: Hearing Before the Subcomm. on Energy and Air Quality, House Comm. on Energy and Commerce*, 108th Cong. 55 (May 19, 2004) (statement of Jeffrey A. Donahue, Chairman and Chief Executive Officer, Cross-Sound Cable Company, LLC).

33 *Id.* at 59–60.

34 Linda L. Randell & Bruce L. McDermott, *Chronicle of a Transmission Line Siting*, PUB. UTIL. FORT., Jan. 1, 2003, at 34, 35–36.

Sound line was allowed to go live.[35] Eventually the parties entered into a settlement and the project went live, but it is clear that environmental opposition in the state siting process in Connecticut delayed the transmission line's operation for several years.[36]

Not all new transmission projects facing state environmental opposition have been as fortunate. In 2005, Southern California Edison proposed to build a 230-mile, high-voltage transmission line from Blythe, California, to the Palo Verde Nuclear Generating Station, fifty miles west of Phoenix, Arizona.[37] The siting of the line was approved by California regulators.[38] Arizona regulators, however, rejected the proposal, even though it would have been paid for by California ratepayers.[39] Emphasizing the ostensible environmental costs the line would impose on Arizona at the expense of California, they called the line a "230-mile extension cord."[40] Among the concerns stated were environmental impacts on "everything from native plants and wildlife to viewshed and archeological sites."[41] As one Arizona regulator bluntly put it, "I don't want Arizona to become an energy farm for California. This project, if we approved it, would use our land, our air and our water to provide electricity to California."[42] Southern California dropped its proposal in 2009.[43]

What is notable about these examples is that, while environmental concerns were stated for opposing transmission in the form of costs to residents in each state, there is little evidence that the state siting proceedings provided an effective forum for balancing out-of-state benefits, including benefits to the environment. As with the determination of need, the assessment of environmental impacts has been primarily focused on the in-state benefits of a project, rather than on a broader assessment of its benefits and costs.

---

35 *See* Bruce W. Radford, *Cross-Sound Cable Puts Feds on the Spot*, FORT.'S SPARK, June 2004, at 1, 1–2 (describing action taken by Connecticut's attorney general); Linda Randell & Bruce McDermott, *Cross-Sound Blues*, PUB. UTIL. FORT., Feb. 2004, at 20, 20.

36 *Parties Set Deal to Energize Cross Sound Cable*, INSIDE FERC, June 28, 2004, at 1, 1–2.

37 Press Release, Edison Int'l, SCE Seeks Approval to Build Devers Transmission Line (Apr. 12, 2005), http://www.edison.com/pressroom/pr.asp?bu=sce&year=0&id=5484 (last visited Nov. 15, 2009).

38 S. Cal. Edison Co., Decision 07-01-040 (Cal. Pub. Util. Comm'n Jan. 25, 2007), 2007 WL 951285, *available at* http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/64017.pdf.

39 S. Cal. Edison Co., Case No. 130, Decision No. 69638 (Ariz. Corp. Comm'n June 6, 2007), 2007 WL 2126365, *available at* http://images.edocket.azcc.gov/docketpdf/0000073735.pdf.

40 Press Release, Ariz. Corp. Comm'n, Regulators Reject "Extension Cord for California": Commissioners Reject Palo Verde to Devers II Power Line (May 30, 2007), *available at* http://www.energylegalblog.com/files/ACC_Press_Release_Devers_II_Vote.pdf.

41 *Id.*

42 *Id.* (quoting Commissioner Bill Mundell).

43 *Edison Drops Plan for Power Line in Arizona*, L.A. TIMES, May 16, 2009, http://articles.latimes.com/2009/may/16/business/fi-edison16 (last visited Nov. 15, 2009); S. Cal. Edison, *Southern California Edison Will Not Seek License to Construct Transmission Line in Arizona at This Time*, TRANSMISSION & DISTRIBUTION WORLD, May 18, 2009, http://tdworld.com/overhead_transmission/socal-edison-cancels-transmission-license-0509 (last visited Nov. 15, 2009).

C. Market and Environmental Trends Challenging the Status Quo of State Transmission Siting Laws

This Part describes how developments in wholesale power markets and heightened attention to climate change render many state transmission line siting laws obsolete to address problems in the U.S. energy economy. While state transmission line siting laws may have worked adequately in the era of the monopoly franchise and vertically integrated utility, in all but a handful of circumstances they do not provide sufficient legal authority for state regulators to expand transmission infrastructure to accommodate either wholesale powers markets or to expand infrastructure to accommodate renewable energy resources.

1. Developments in Wholesale Power Markets

Any discussion of state public utility regulation today must begin against the backdrop of federal policies supporting competition in wholesale bulk power supply markets. Wholesale power markets have been largely deregulated since the mid-1990s, when the Federal Energy Regulatory Commission (FERC) adopted open access policies for transmission in Order Number 888.[44] Congress has not opposed open access principles, and all indications are that the Obama Administration will continue to embrace the open access goals adopted by the Clinton Administration and continued under the Bush Administration. Promoting competition in bulk power markets has been a consistent characteristic of federal energy policy dating back to the late 1970s.[45] It fully evolved into open access over the course of FERC implementation of the Energy Policy Act of 1992.[46] Under federal open access policies, both utility and nonutility bulk power suppliers should be able to compete on a more level playing field. This challenges the traditional public utility regime under which state regulators operate, in which a utility that owns both transmission and generation could have made decisions to favor its own incumbent supply options over competitors' supply options in making transmission decisions.[47]

As has been well recognized for a number of years, a competitive wholesale power market assumes sufficient transmission infrastructure and pricing policies to enable competitive wholesale power supply markets.[48] If

---

[44] Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, 61 Fed. Reg. 21,540, 21,541 (May 10, 1996).

[45] ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, THE CHANGING STRUCTURE OF THE ELECTRIC POWER INDUSTRY: AN UPDATE 51, 51 (1996), *available at* http://tonto.eia.doe.gov/FTPROOT/electricity/056296.pdf.

[46] *Id.* at 56–59. In the Energy Policy Act of 1992, 42 U.S.C. §§ 13201–13556 (2006), Congress endorsed wholesale power competition and provided FERC with a stronger statutory basis for mandating open access than did previous law. ENERGY INFO. ADMIN., *supra* note 45, at 51.

[47] Such decisions may have been made for both efficiency-enhancing and anticompetitive reasons; the only intent here is to describe the reality of the movement toward wholesale competition and its inevitable implications, not to defend it.

[48] Richard J. Pierce, Jr., *A Proposal to Deregulate the Market for Bulk Power*, 72 VA. L. REV. 1183, 1231–32 (1986).

transmission is physically and economically constrained, it is difficult for bulk power supply markets to flourish. Absent the appropriate pricing, physical constraints on transmission can preclude remote, nonincumbent suppliers who do not own transmission from accessing customers. Economic constraints on transmission can influence its pricing and undermine the ability of new entrant bulk power suppliers to effectively compete with established suppliers. Under the traditional vertical integration monopoly paradigm, in which rate regulation was the norm, utilities had little incentive to expand transmission for nonutility generation sources that did not serve native load customers, since they could preserve their monopolies by building just enough transmission to allow their own power supply to reach their own customers.[49] As a result, today, certain areas of the United States, such as parts of the Northeast and parts of the West, face serious transmission constraints for even existing power supply resources.[50] In areas where transmission capacity is constrained and is not priced for all suppliers to reflect congestion, wholesale power markets also face serious barriers.

While state siting authority may have been a stable mechanism to attract investment for transmission under the traditional public utility paradigm, many state siting statutes and regulations have not been updated to accommodate the interstate bulk power supply markets. As discussed above, most states' siting statutes envision a determination of need based on benefits to in-state customers.[51] If a particular state's customers may benefit, in terms of reliability or price, from competitive bulk power markets, this could encompass transmission expansion for this purpose. Under existing law in most states, state siting authorities generally lack the ability to even consider, let alone rely on, export and import opportunities in the interstate wholesale markets as a basis for siting transmission lines.[52] Two aspects of state siting laws typically limit the ability of state regulators to consider opportunities for renewable power export and import opportunities in the wholesale market in siting transmission lines. First, many states limit the consideration of "need" to in-state benefits, rather than more broadly consider the benefits of locating and building a transmission line. Second, many states limit who can apply to site a transmission line.[53]

---

49 Gail E. Tverberg, *The U.S. Electric Grid: Will It Be Our Undoing?*, OIL DRUM, May 11, 2008, at 2, *available at* http://www.theoildrum.com/pdf/theoildrum_3934.pdf. The effect of constraining the grid to preserve monopoly power has a number of byproducts that are environmental and technological as well as economic. *See id.* at 4. Failure to facilitate access not only favors incumbent utilities, it also tends to favor incumbent generating units. The result is often extended lives for older, "dirtier" generators, and barriers against optimal use of newer, more efficient units. *Id.* For that reason, it can also be a barrier to the full utilization of new renewable energy generating plants.

50 *Id.* at 4–7.

51 *See, e.g.*, N.Y. PUB. SERV. LAW § 126 (McKinney 2000); *see also supra* Part II.A.

52 Brown & Rossi, *supra* note 15 (manuscript at 16).

53 *Id.* (manuscript at 10–13); W. INTERSTATE ENERGY BD., SUMMARY OF STATE TRANSMISSION SITING LAW IN THE WESTERN INTERCONNECTION (2009), *available at* http://www.westgov.org/wieb/transmission/other/siting_chart.pdf.

Many of the criteria siting statutes instruct state regulators to focus on benefits to in-state customers and do not include benefits to out-of-state customers or to the wholesale supply market.[54] Indeed, that traditional scenario has come under enormous stress in the face of the emergence of competitive bulk power markets, in which functional and corporate unbundling and the movement away from vertical integration has been emphasized.[55] Put simply, the state-specific review of need is less meaningful in the context of multistate markets. An excellent example of this change is the question of what constitutes need in a competitive market. In a vertically integrated monopoly model, the requirement to show need not only constituted a possible justification for whatever environmental or other degradation might occur, it also protected consumers from having to pay for capacity in excess of what was required to adequately and reliably serve them. In a competitive market, on the other hand, where supply and demand drives prices, and where consumers are not obligated to pay all of their suppliers' prudently incurred costs, excess capacity is (at least from a consumer perspective) a positive factor in driving down prices. From the opposite perspective, existing generators are likely to challenge proposed new generating plants or new transmission, which will enable more generation to access more markets because of the fear that new entrants will drive down prices.[56]

The fundamental question faced by siting officials in today's environment is what constitutes need in a competitive market. It is a seemingly simple question, but in fact it is quite complex. At the extreme, it calls into question any requirement at all that state regulators assess the need for transmission lines in a market, in which supply and demand, not centralized decision makers, are better positioned to determine need.[57] For states that view themselves as exporters of energy into a bulk power market, does the old paradigm, that need be determined in the context of what is required to serve the consumers in a given state, get replaced by a new paradigm that sees need in the broader context of the robustness of competition and the overall economic development of the state? Similarly, how does one determine need in the context of building new transmission to enable clean renewable energy to displace existing carbon emitting

54 Brown & Rossi, *supra* note 15 (manuscript at 11–13); *see, e.g.*, N.Y. PUB. SERV. LAW § 126 (McKinney 2000).

55 Brown & Rossi, *supra* note 15 (manuscript at 15–17).

56 Vertically integrated utility incumbents have very powerful economic incentives not to build transmission that would expose them to more competition. It is for that reason that in areas of the United States where there are established Regional Transmission Organizations (RTOs), much transmission planning has been taken out of the hands of utilities and vested in the RTOs and their constituent processes. *See* Regional Transmission Organizations, 65 Fed. Reg. 810, 811 (Jan. 6, 2000) (codified at 18 C.F.R. pt. 35) (explaining FERC's reasons for adopting RTO regulations); *see also* Press Release, N.Y. Indep. Sys. Operator, Planning Key to Addressing Energy Needs (Aug. 27, 2009), *available at* http://www.nyiso.com/public/webdocs/newsroom/press_releases/2009/Planning_Key_to_Addressing_Energy_Needs_08272009_FINAL.pdf (describing one RTO's planning for future electricity needs).

57 For discussion of the argument that state officials might dispense with a traditional need determination in siting proceedings, see Brown & Rossi, *supra* note 15 (manuscript at 12–13).

generation that may yet have many years of useful life? For coal-electric, power-producing states that are also resource rich, that is a particularly vexing problem, since the net effect of allowing the renewable displacement of coal could well have adverse effects on employment and the overall economy within the state, thereby calling into question how such a state should define its own economic development for purposes of need assessment in a siting proceeding. One further query worth mentioning is the geographic context within which siting officials in one state should consider need in another state. It is the same issue that individual states face when local officials have siting powers that impact an entire state, only now it is the question of an individual state making decisions that impact an entire multistate region.

Nationally, states vary widely on how parochial their siting statutes and practices are, but at least one case from Massachusetts held that the state's Energy Facilities Siting Board was without authority to site a line within the state unless the entirety of the benefits of the transmission line accrued to in-state consumers.[58] Some twenty years earlier, the Supreme Court of Mississippi held that eminent domain could not be exercised in the state by a multistate utility that served Mississippi customers because some of the beneficiaries of the line for which condemnation powers were being used were out of state.[59] While not all states take such parochial points of view, the issue of out-of-state benefits can be legally and politically problematic for state siting officials.

Multistate power markets were not the main priority of legislators in enacting most state siting statutes, if they were even contemplated by legislators at all. However, today, given the increasing interdependence of states' energy supply and demands in many regions of the United States, and the constant significance of reliability in discussions of need in siting proceedings, it is difficult to imagine siting authorities not giving *any* consideration to the nature of the interconnected grid. It is, of course, self evident that consideration of needs for other states by siting a line in one's own state is not simply a selfless act of benevolence by the state taking those benefits into account. Rather, it may well be a decision taken to promote a state's economic self interest not only as a seller of energy but also potentially as a buyer of energy, and a recognition of interdependence for reliability. On the other hand, opponents of siting a particular line could and frequently do contend that siting regulators are creatures of narrow statutes and cannot go beyond the precise letter of the law.[60]

Also looming over this issue is the possibility of federal preemption. In stark political terms, the more parochial the viewpoint state siting officials take, the more likely it is that Congress will preempt their authority.[61]

---

58 Point of Pines Beach Ass'n v. Energy Facilities Siting Bd., 644 N.E.2d 221, 223–24 (Mass. 1995).

59 Miss. Power & Light Co. v. Conerly, 460 So. 2d 107, 112–13 (Miss. 1984).

60 *Point of Pines Beach Ass'n*, 644 N.E.2d at 223–24.

61 This may happen through either the express or the implied preemption doctrine under the U.S. Constitution's Supremacy Clause, or through judicial application of the Commerce

Certainly, there is the precedent of states preempting the powers of local governments in siting for similar reasons.[62] Some states have evolved on these issues, from not wanting to be the energy farms for giant "energy sinks" (e.g., California) to, in some cases, seeing real benefits to becoming an energy farm.[63] Putting ironies aside, in the absence of statutory change, the degree of flexibility given to siting authorities to determine their scope of discretion in looking at their own state's economic development and the nature of market opportunities in serving the needs of consumers in another state, as opposed to the more traditional weighing of local impacts versus statewide or system-wide benefits, depends ultimately on how much discretion the courts are willing to provide to siting officials.[64]

State regulators making need determinations in the current environment might be on their firmest legal ground under their own statutory authority where a link can be established between a transmission line and the economic development policy of a state. The import of power may contribute to economic development by diversifying power supply options, creating downward pressures on price, providing customers greater reliability, and contributing to general economic growth in ways that benefit customers. In addition, and of perhaps greater economic growth opportunity, competitive bulk power supply options present many opportunities for resource rich states to export power. Such a state might rely on the benefits to its own economy and customers to expand transmission within its own state, but under existing state siting statutes, the consideration of benefits may end at its own borders if a neighboring or adjacent state is not willing to expand transmission for the same reasons. For such states, the failure of an adjacent or neighboring state to site a facility will limit the ability to export resources and can potentially skew interstate bulk power supply markets.

A second significant legal limitation in state siting statutes is that many states limit siting applications or only offer the full range of benefits of siting approval, including eminent domain powers, to utilities.[65] For example, if a state is asked to site a transmission line on behalf of an out-of-state applicant, including an out-of-state utility—using the wires in the state solely for the purpose of transmission—some state regulators lack authority to even consider the application unless the out-of-state applicant is willing to take on the obligations of an incumbent utility.[66] Other states limit eminent

Clause's dormant or "negative" limitations on a state adopting and enforcing regulations that discriminate against out-of-state producers.

62 *Point of Pines Beach Ass'n*, 644 N.E.2d at 222–24.

63 *See, e.g.*, Daniel W. Meek, *Pacific Northwest Conversation for California: The Mutual Benefits of Long-Term Cooperation*, 13 ENVTL. L. 841, 843–44 (1983) (describing Northwest states' provision of power to California).

64 For the argument that federal preemption authorizes state officials to take into account need aspects of the wholesale market, and does not limit state officials to in-state benefits, see Jim Rossi, *Transmission Siting in Deregulated Wholesale Power Markets: Re-Imagining the Role of Courts in Resolving Federal-State Siting Impasses*, 15 DUKE ENVTL. L. & POL'Y F. 315, 328–29 (2005).

65 *See supra* notes 25–28 and accompanying text.

66 *See supra* notes 25–28 and accompanying text.

domain powers to utilities with an obligation to serve in-state customers.[67] With the emergence of wholesale competition, however, new players have entered the market. Merchant transmission companies, and even generating companies that want to build their own interconnections, are now viable business models being pursued in electricity markets in the United States and elsewhere.[68]

For states interested in using their own resources for the export of energy, or for importing energy for the benefit of their consumers and economies, the attraction of capital to the transmission business would be facilitated if the investment could be sought from a broader pool of capital than simply in-state utilities.[69] In fact, utilities may well be unwilling to make transmission investments that others might find attractive. The reasons why utilities might be reluctant to make transmission investments that others are willing to make include a desire to restrict or reduce competition, a capital impairment of some sort, inadequate regulatory incentives, an unwillingness to use up political capital or public goodwill, or perhaps simply the demands on their capital budget are such that some transmission projects are of a lesser priority to them than they might be to others. Even where states allow nonutilities to apply to site transmission lines, they take a far more restrictive position in regard to the use of eminent domain to acquire the right-of-way.[70]

In terms of advancing states as developers and exporters of renewable energy resources, the ability of both utilities and nonutilities to receive siting permits for transmission is, for the reasons noted above, advantageous. Not only does permitting nonutilities to invest in transmission open access to new capital, it also, for reasons discussed below, removes the question of building transmission for exporting energy from the complexities of local utility rate making and related cost or risk allocations.

---

67 *See supra* note 24 and accompanying text.

68 For example, the Cross Sound Cable, discussed above, was not built by a utility, but was built by merchant investors. *See supra* notes 32–36 and accompanying text.

69 There may be a question in some states if, simply by virtue of operating a transmission line, a company must register as a utility in a state because of the nature of its business. *See, e.g.*, WYO. STAT. ANN. § 37-1-101(a) (2009) (defining a utility as "every person that owns, operates, leases, controls or has power to operate, lease or control . . . [a]ny plant, property or facility for the generation, *transmission*, [or] distribution . . . for the public of electricity" (emphasis added)). This Article does not explore that issue because the primary focus is on whether someone other than the local incumbent utility can seek approval to site new line. If obtaining that approval, *ipso facto*, makes them a utility, it is not particularly relevant to issues being explored in this Article, other than to note that some investors, for a variety of reasons, might be deterred because they do not wish to be subjected to state utility regulation. It should also be noted that even if a transmission company is not state regulated, it is almost inevitably subject to FERC jurisdiction. *See* Erich W. Struble, Comment, *National Interest Electric Transmission Corridors: Will State Regulators Remain Relevant?*, 113 PENN ST. L. REV. 575, 582–83 (2008) (describing FERC's broad regulatory authority).

70 *See generally* Steven J. Eagle, *Securing a Reliable Electricity Grid: A New Era in Transmission Siting Regulation?*, 73 TENN. L. REV. 1, 13–19 (2005) (discussing the restrictions of eminent domain and right-of-way on states when siting new transmission lines).

2. Heightened Attention to Climate Change

Heightened attention to climate change is another development that is challenging the traditional public utility model and its accompanying understanding of the public interest in siting. Many opportunities for large-scale development of renewable energy resources, such as wind turbine farms and solar thermal fields, are geographically distant from a large-load customer base. Wind turbines in North Dakota, for example, are physically distant from customers in large metropolitan areas such as Chicago. T. Boone Pickens has highlighted the need to build massive transmission infrastructure to allow development of new wind turbine fields in Texas since, without such infrastructure, generating facilities are isolated and unable to reach customers.[71] Likewise, precious wind resources in the Dakotas and the Rockies will only be able to reach customer bases if a massive new transmission infrastructure is built.[72]

As with wholesale markets, apart from the occasional nod to renewable portfolio standard (RPS) goals, most state siting statutes do not explicitly contemplate the consideration of climate change and renewable energy goals in siting. To begin with, the need determination by regulators in most states historically defines the "need" for power based on a specific physical definition of what is required to provide service to customers.[73] To the extent environmental impacts may be taken into account in state siting proceedings, historically these are limited to local land use impacts or to local pollution.[74] In contrast to a physical and economic claim of need to benefit in-state customers, climate change presents a "new" need for transmission—one that is based on a claim of need to benefit out-of-state suppliers, new entrant energy supply firms, and out-of-state customers, whose plans are consistent with meeting environmental policy objectives. In addition, the environmental aspects of siting transmission to address climate change goals challenge the parochial, more narrowly (i.e., local) defined interests most state siting statutes focus on. While states do take into account traditional environmental harms, these are frequently limited to local environmental harms such as conventional pollutants and their impact

71 T. Boone Pickens proposed building as many as 4000 megawatts of wind turbines in the state of Texas. One acknowledged barrier to developing such a large wind turbine project is the lack of transmission lines in areas of the state that have strong wind resources. Elizabeth Souder, *T. Boone Pickens Plans Power Play with Huge Texas Panhandle Wind Farm*, DALLAS MORNING NEWS, May 15, 2008, http://www.dallasnews.com/sharedcontent/dws/dn/latestnews/stories/DN-pickenswind_15bus.ART.State.Edition1.4687df7.html (last visited Nov. 15, 2009).

72 Green Power Express has proposed building such a facility in the Midwest, to serve portions of North Dakota, Minnesota, South Dakota, Iowa, Wisconsin, Illinois, and Indiana. *See* ITC Holdings Corp., The Green Power Express, http://www.itctransco.com/projects/thegreenpowerexpress.html (last visited Nov. 15, 2009) (describing the proposed project); *see also* Matthew L. Wald, *Giving the Grid Some Backbone*, SCI. AM. EARTH 3.0, Apr. 6, 2009, at 52, 52 (describing remoteness of certain renewable energy resources).

73 *See, e.g.*, Jeanne B. Curtin, *Recent Developments in Land Use and Environmental Law*, 16 J. LAND USE & ENVTL. L. 265, 279 (2001) (reviewing Florida statute that determines need by assessing in-state customer demand).

74 N.M. STAT. ANN. § 62-9-3a (Supp. 2004).

on a state's population of localized concerns.[75] Broader out-of-state interests in mitigating the future harms associated with the energy economy are simply beyond the scope of most state siting statutes, and few statutes have been updated to explicitly take into account an increased dependence on renewable resources to address climate change concerns.[76] This is of particular significance given that, as the U.S. Supreme Court recognized in *Massachusetts v. Environmental Protection Agency*,[77] the impacts of climate change are global, not concentrated locally or within an individual state's borders.[78]

States have been leaders in adopting climate changes reforms, particularly given inaction at the federal level. States like California have been innovators, enacting climate change regulations that are ambitious in both their goals and their scope.[79] However, states have not been as innovative in addressing climate change impacts in the context of electric power transmission. No state nationally appears to require siting officials to consider carbon emissions or other broader air quality issues, as opposed to local, or in-state, impacts that they are generally required to consider, in making decisions to plan or site transmission. No statute even references climate change, or, for that matter, any out-of-state environmental effects in that regard. None make direct reference to the impact that a proposed line would have on the resource mix being used to generate energy.

About twenty-five states have RPS goals, which are designed to promote utility use of renewable sources as an alternative to fossil fuels.[80] The typical RPS requires a utility to certify that a certain percentage of the power it is supplying to customers comes from renewable sources.[81] Some states supplement this with a renewable energy credit (REC) system, in which a utility can establish compliance with a goal by purchasing credits rather than generating or purchasing power from renewable sources.[82] While it may promote some renewable power and climate change goals,[83] a state

75 For example, New Mexico explicitly contemplates the consideration of local environmental impacts. *Id.*

76 *See* Laura Koch, Comment, *The Promise of Wave Energy*, 2 GOLDEN GATE U. ENVTL. L.J. 162, 190–91 (2008) (discussing Oregon's legislative initiative for renewable wave energy).

77 549 U.S. 497 (2007).

78 *See id.* at 521. *See generally* Jonathan B. Wiener, *Think Globally, Act Globally: The Limits of Local Climate Change Policies*, 155 U. PA. L. REV. 1961, 1962, 1964 (2007) (arguing that "think globally, act locally" is not prudent advice for protecting the environment when "externalities arise from wide-spread and geographically moveable sources").

79 *See* Kirsten Engel, *State and Local Climate Change Initiatives: What Is Motivating State and Local Governments to Address a Global Problem and What Does This Say About Federalism and Environmental Law?*, 38 URB. LAW. 1015, 1016–17 (2006) (describing California's climate change programs).

80 *See* PEW CTR. ON GLOBAL CLIMATE CHANGE, RENEWABLE & ALTERNATIVE ENERGY PORTFOLIO STANDARDS (2009), *available at* http://www.pewclimate.org/sites/default/modules/usmap/pdf.php?file=5907 (providing list of states with RPSs).

81 Joshua P. Fershee, *Changing Resources, Changing Market: The Impact of a National Renewable Portfolio Standard on the U.S. Energy Industry*, 29 ENERGY L.J. 49, 49 (2008).

82 *See id.* at 51 (describing how a national REC program might function).

83 It is seriously questionable whether all state RPSs have been successful at meeting their own stated goals. Robert Michaels, *A Federal Renewable Electricity Requirement: What's Not to Like?*,

having an RPS goal, or incorporating RPS-related considerations into the relevant considerations for transmission planning and siting (such as adopting a renewable "quota" for transmission), is not sufficient for purposes of developing a state's export of renewable sources. Even where RPS exists, it is applied to how the energy procured and/or produced by the jurisdictional utilities for sale to its jurisdictional customers is generated, rather than to what energy is produced within the state. To the extent states permit trading of RECs, there is no need for actual renewable power to be generated in the state or delivered at all to the actual purchaser of the energy with green attributes, or possibly even into the state's borders at all. There are no statutory admonitions to siting officials to be mindful of environmental effects other than those within each state's boundaries, no mention of assisting other states in meeting their RPS objectives, nor even of taking advantage of the economies of scale in generation that might be taken advantage of by selling energy across multiple jurisdictions.

It is interesting to note that as concerns rise regarding climate change, interest in renewable energy escalates, and reliance on bulk power markets for supply grows, the siting laws and criteria for considering the environmental and other noneconomic impacts of siting new transmission appear to be in a bit of a time warp associated with the old model of vertically integrated monopolies, indifference to the sources of energy, and only local environmental impacts. Whether, in practice, siting officials can move beyond that framework without further legislative authorization depends not only on their initiative and policy objectives but also on how much leeway they will be provided by the courts, or how much new direction they will be given by their legislators. Certainly there are public policy reasons for doing so, but siting decisions are governed by statutes passed by legislative bodies, how siting officials administer those statutes, and how courts interpret the statutes.

While most states continue to embrace their old transmission siting laws, there is a modest spirit of reform brewing among state legislatures in expanding the scope of regulators' decisions in siting statutes. While transmission line siting authority in most states is insufficient to address such concerns, some states have explicitly expanded the legal authority of state siting bodies to consider climate change goals, or at least taken steps to reduce carbon emissions. New Mexico has been a leader in this regard, adopting the New Mexico Renewable Energy Transmission Authority Act.[84] While this statute does not expand state eminent domain power beyond traditional utilities, it does establish a Renewable Energy Transmission Authority Board for planning and gives it the power of eminent domain (not as a new power, but simply as a consequence of being a state agency), the

POL'Y ANALYSIS, Nov. 13, 2008, at 1, 7 tbl.2, *available at* http://www.cato.org/pubs/pas/pa-627.pdf. While there is some basis for being skeptical of such state standards, the arguments that state failures extend to any federal standard seems specious, given that states have been subject to their own inconsistent and idiosyncratic enforcement policies as well as spillage from the interstate wholesale market—neither of which presents a problem for a uniform federal standard.

84 N.M. STAT. ANN. §§ 62-16A-1 to -15 (Supp. 2009).

power to approve tax-exempt bonds, and the power to approve charges to pay for transmission projects.[85] According to a state agency document, at least thirty percent of any new transmission capacity must be for renewable derived electricity.[86] New Mexico's innovative statute parallels the approach of some other states. California has also explicitly authorized its state regulators to include its renewable portfolio goals in transmission planning and siting, including through the specification of competitive renewable energy zones for transmission.[87] Texas has also endorsed the concept of competitive renewable energy zones, designed to address in particular the expansion of the renewable energy economy in the state.[88]

Such states seem to focus predominantly on promoting state-focused goals and, to the extent that they incorporate broader concerns, they generally speak in permissive, not mandatory, terms.[89] For example, Ohio regulators are authorized to consider whether a transmission facility "is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems and that the facility will serve the interests of electric system economy and reliability."[90] Wisconsin explicitly authorizes consideration of regional plans, but even more explicitly limits the focus on improvements to reliability to Wisconsin customers.[91] To the extent such laws allow consideration of out-of-state benefits, whether these considerations are analyzed at all remains largely in the discretion of state regulators.[92] However, the interests of individual states, and likely the perspectives of state regulators, do not always align with broader regional goals. Consuming states, such as California, see their main goal as diversifying resources beyond traditional fossil fuels and sparking development of new energy startups.[93] Producing states, such as New Mexico, see their main goal as encouraging economic development of a renewable energy sector and developing particular rural

85 *Id.* §§ 62-16A-3 to -4.

86 N.M. ENERGY, MINERALS & NATURAL RES. DEP'T, HB 188: RENEWABLE ENERGY TRANSMISSION AUTHORITY ACT (2007), *available at* http://www.emnrd.state.nm.us/ECMD/LawsRegulations ExecutiveOrders/documents/HB-188-RETA-fact-sheet-07.pdf [hereinafter FACT SHEET].

87 *See* Cal. Energy Comm'n, Renewable Energy Transmission Initiative, http://www.energy.ca.gov/reti/index.html (last visited Nov. 15, 2009) (detailing the interagency California Renewable Energy Transmission Initiative).

88 Implementing details on the Texas plan can be found at Pub. Util. Comm'n of Tex., Competitive Renewable Energy Zones, http://www.puc.state.tx.us/rules/subrules/electric/25.174/25.174ei.cfm (last visited Nov. 15, 2009). The relevant statutory provisions are codified at TEX. UTIL. CODE ANN. § 39.904 (Vernon 2007).

89 It has been observed that some states, such as Wisconsin and Ohio, explicitly authorize state officials to consider whether siting a transmission line is consistent with broader regional goals. *See* Struble, *supra* note 69, at 597 (describing Wisconsin and Ohio transmission siting statutes).

90 OHIO REV. CODE ANN. § 4906.10(A)(4) (West Supp. 2009).

91 As part of their transmission planning process, Wisconsin regulators are required to "conduct a study on identifying and relieving any constraint on an intrastate or interstate electric transmission system that adversely affects the reliability of transmission service provided to electric customers in [Wisconsin]." *See* WIS. STAT. § 196.494(2) (2009).

92 *See* OHIO REV. CODE ANN. § 4906.10(A)(4) (West Supp. 2009) (providing regulators with discretion); WIS. STAT. § 196.494(4) (2009).

93 Cal. Energy Comm'n, *supra* note 87.

areas.[94] There may be obstacles if consumer and producer interests are not aligned, and in many instances producer interests are not sufficiently strong in the renewable sector to support legislative reform. For example, in a state that is neither a sink nor a source state, but rather is serving primarily as a conduit for power produced and consumed elsewhere, there may be no apparent in-state benefit to siting the line, and it is unlikely any interest group in such a state could build a sufficient coalition to support passage of legislation similar to that in New Mexico, California, or Texas. Even where such legislation does pass, it will likely merely authorize, not require, state officials to take into account broader regional goals.

III. THE MOVEMENT TO EXPAND FEDERAL AUTHORITY OVER TRANSMISSION LINE SITING

Congress has responded to some of the concerns about limited state authority to expand transmission infrastructure by broadening federal authority to preempt state regulators in siting proceedings. In the twentieth century, when most of the U.S. power grid was planned and built, the Federal Energy Regulatory Commission (FERC) did not have any direct power over siting of electric power transmission lines,[95] and the state regulatory process was considered the exclusive forum for the resolution of siting disputes.[96] In the 2005 Energy Policy Act,[97] Congress gave FERC "backstop" authority to expand transmission in limited regions of the country facing transmission constraints.[98] FERC has yet to use this authority,[99] and there is some question on how strong its powers remain following a recent limiting interpretation by a federal court.[100] Proposals to more extensively expand FERC's transmission siting authority, broadening its preemptive powers over state siting proceedings, are before Congress as a part of pending climate change legislation, which is supported in principle by the Obama Administration.[101]

A. Existing Federal Law

In the 2005 Energy Policy Act, Congress amended the Federal Power Act (FPA),[102] for the first time delegating authority to the Department of

94 FACT SHEET, *supra* note 86.

95 *See* Brown & Daniels, *supra* note 8, at 24–25 (describing state siting structure and lack of federal oversight).

96 *Id.*

97 Energy Policy Act of 2005, Pub L. No. 109-58, 119 Stat. 594 (codified in scattered sections of the U.S.C.).

98 Federal Power Act, 16 U.S.C. § 824p(a)(2) (2006).

99 *See infra* note 119 and accompanying text.

100 *See infra* notes 123–31 and accompanying text.

101 *Wellinghoff Sees Big FERC Role Supporting Obama Green Energy Goals*, ENERGY WASH., Dec. 30, 2008, *available at* http://www.ferc.gov/about/com-mem/wellinghoff/12-30-08-energy-washington.pdf.

102 16 U.S.C. §§ 791a–825r (2006).

Energy (DOE) to designate National Interest Energy Transmission Corridors (NIETCs) and to FERC to exercise some "backstop" permitting authority over states within the NIETCs.[103] According to these amendments, DOE "may designate any geographic area experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers as a national interest electric transmission corridor."[104] In compliance with the 2005 Energy Policy Act, DOE completed its study of transmission congestion in August of 2006, and in 2007 it published draft designations of the Mid-Atlantic Area and Southwest Area National Interest Energy Corridors, based on the study.[105] The statute also requires the Secretary of Energy to consult with the states and conduct a study of electric transmission congestion every three years following the initial NIETC designation.[106]

Although the scope of FERC's "backstop" authority is limited geographically exclusively to the corridors specifically identified by DOE,[107]

103 *Id.* § 824p(a)–(b).

104 *Id.* § 824p(a)(2). Section 824p(a)(4) provides specifics as to what the Secretary *may* consider in designating the corridors. Generally, DOE may consider the economic effects of inadequate or unreasonably priced electricity within the corridor and in the end markets served by the corridor. *Id.* § 824p(a)(4). It may also consider whether "a diversification of supply is warranted," whether "the energy independence of the United States would be served by the designation," whether "the designation would be in the interest of national energy policy," and whether "the designation would enhance national defense and homeland security." *Id.* Section 824p(a)(4) also allows the Secretary to consider whether "economic *growth* in the corridor, or the end markets served by the corridor, may be jeopardized by reliance on limited sources of energy, *and* [whether diversification of supply, energy independence, national energy policy, national defense and homeland security would be served]." *Id.* (emphasis added).

105 Draft National Interest Electric Transmission Corridor Designations, 72 Fed. Reg. 25,838 (May 7, 2007). In October 2007, DOE issued its final designations of the corridors. National Electric Transmission Congestion Report, 72 Fed. Reg. 56,992 (Oct. 5, 2007). A pending case before the Ninth Circuit challenges the degree to which DOE can rely on renewable resources in designating NIETCs. Brief of Petitioners at 17, Wilderness Soc'y v. U.S. Dep't of Energy, No. 08-71074 (9th Cir. Dec. 29, 2008). The filing of this lawsuit is interesting because it points out a schism among environmentalists in regard to building new transmission. At the risk of being a bit simplistic, the debate divides the environmental community. The schism is between those whose focus is primarily on air quality (including carbon emissions) and who want to reduce dependence on fossil fuels, and those who are more focused on land and water issues (e.g., wildlife and vegetation) and who are concerned about the proliferation of generators (including wind turbines) and transmission lines across the landscape. Air quality advocates want to see more wind generation and other renewable resources and want to assure that there is sufficient transmission to link "clean energy" to load centers. Brown & Rossi, *supra* note 15 (manuscript at 24–25). Air and water quality advocates, on the other hand, prefer to see generation built closer to load centers and find barriers to the construction of power lines useful in the achievement of their policy objectives. *See* Andrea Stone, *Renewable Energy Plan Creates Rift*, U.S.A. TODAY, Sept. 8, 2009, http://www.usatoday.com/money/industries/energy/environment/2009-09-07-renewable_N.htm (last visited Nov. 15, 2009); Stephanie Tavares, *Environmental Concerns Roadblock to Renewable Energy*, LAS VEGAS SUN, Feb. 6, 2009, http://www.lasvegassun.com/news/2009/feb/06/environmental-concerns-roadblock-renewableenergys (last visited Nov. 15, 2009). Thus, one group of environmentalists prefer to facilitate the construction of more transmission, while another seeks to restrict it.

106 16 U.S.C. § 824p(a)(1) (2006).

107 *See* Struble, *supra* note 69, at 579 (concluding that, practically, the 2005 amendments to the Federal Power Act only constitute federal preemption in certain states).

there are also limits on when FERC can exercise it within the NIETCs. According to the statute, construction permits for transmission within NIETCs can be issued by federal regulators, irrespective of the traditional state authority over transmission siting, if one of three sets of conditions are met. First, FERC can override the state if the "State in which the transmission facilities are to be constructed or modified does not have authority to approve the siting of facilities,"[108] or cannot "consider the interstate benefits expected to be achieved by the proposed construction or modification of transmission facilities in the State."[109] Second, FERC can override the state if "the applicant . . . does not qualify to apply for a permit or siting approval . . . because the applicant does not serve end-use customers in the State."[110] Third, FERC can override the state if a state commission with authority to approve the facility either has "withheld approval for more than 1 year,"[111] or has conditioned its approval so that the construction will not "significantly reduce transmission congestion in interstate commerce or is not economically feasible."[112]

If FERC determines that one of these five statutorily specified criteria is satisfied, FERC may override a state commission and issue a construction permit (which would include the power to exercise eminent domain in a federal district court),[113] but only if additional conditions are present. Specifically, the facilities must be used for the transmission of electric energy in interstate commerce;[114] the contemplated construction must be "consistent with the public interest";[115] it must be expected to "significantly reduce transmission congestion in interstate commerce and protect[] or benefit[] consumers";[116] it must be "consistent with sound national energy policy" and be expected to "enhance energy independence";[117] and finally, it must be expected to "maximize, to the extent reasonable and economical, the transmission capabilities of existing towers or structures."[118] To date, only one application to exercise FERC's backstop authority has been received by FERC; that application was withdrawn, however, and the agency has yet to exercise its backstop authority in any single case.[119]

108 16 U.S.C. § 824p(b)(1)(A)(i) (2006).
109 *Id.* § 824p(b)(1)(A)(ii).
110 *Id.* § 824p(b)(1)(B).
111 *Id.* § 824p(b)(1)(C)(i).
112 *Id.* § 824p(b)(1)(C)(ii).
113 *Id.* § 824p(e).
114 *Id.* § 824p(b)(2).
115 *Id.* § 824p(b)(3)
116 *Id.* § 824p(b)(4).
117 *Id.* § 824p(b)(5).
118 *Id.* § 824p(b)(6).
119 Fed. Energy Regulatory Comm'n, U.S. Dep't of Energy, Transmission Line Siting Prefiling Requests, http://www.ferc.gov/industries/electric/indus-act/siting/prefiling-req.asp (last visited Nov. 15, 2009).

B. Proposed Reforms

Despite Congress' expansion of transmission siting authority in 2005, there is considerable concern that FERC's authority over transmission may not be sufficient to allow transmission siting approval in certain areas of the country.[120] Concerns have focused on the fact that many renewable resources, the development of which would depend on transmission, are located outside of DOE's geographically-defined NIETCs.[121] According to FERC Chairman Jon Wellinghoff, "We need a National policy commitment to develop the extra-high-voltage (EHV) transmission infrastructure to bring renewable energy from remote areas where it is produced most efficiently into our large metropolitan areas where most of this Nation's power is consumed."[122]

In addition, a recent judicial case issued a narrowing construction of FERC's statutory authority under the 2005 amendments to the Federal Power Act, calling into question the scope of FERC's authority in certain instances. In *Piedmont Environmental Council v. FERC*,[123] the United States Court of Appeals for the Fourth Circuit interpreted FERC's siting authority narrowly.[124] Specifically, at issue in that case was the language of the statute that authorizes FERC to override a state and issue a construction permit, including the power of eminent domain, if a state commission with authority to approve the facility has "withheld approval for more than one year."[125] FERC initially interpreted this statutory language to authorize the agency to exercise its backstop authority in instances where a state regulator had explicitly *denied* an application.[126] However, relying on its characterization of the plain language of the statute, the *Piedmont* panel resolved the issue at step one under *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*,[127] interpreting the language of section 216 of the FPA to preclude FERC from exercising its transmission siting backstop authority where an application to build a transmission line has been denied (as opposed to *approval withheld*, as explicitly mentioned in the statute) by state regulators

120 *Transmission Infrastructure: Hearing Before the S. Comm. on Energy and Natural Resources*, 111th Cong. 66–67 (Mar. 12, 2009) (statement of James A. Dickenson, Managing Director and Chief Executive Officer, JEA) [hereinafter *Transmission Infrastructure Hearing*].

121 *Id.*

122 *Id.* at 10 (statement of Jon Wellinghoff, Acting Chairman, Federal Energy Regulatory Commission).

123 558 F.3d 304 (4th Cir. 2009).

124 *See id.* at 309–10.

125 16 U.S.C. § 824p(b)(1)(C) (2006); *Piedmont Envtl. Council*, 558 F.3d at 309–10.

126 *Piedmont Envtl. Council*, 558 F.3d at 311.

127 467 U.S. 837 (1984). *Chevron*, of course, laid down a two-step process for courts reviewing agency legal interpretations. At step one, a court first determines "whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter." *Id.* at 842. On the other hand, if the court concludes that "the statute is silent or ambiguous with respect to the specific [question]," the court moves on to step two, at which it defers to a reasonable agency construction of the statute in question if it is permissible. *Id.* at 843.

within one year.[128] The court reasoned that the phrase "withheld approval for more than one year"[129] does not, read by itself, include the "outright denial of a permit application within the one-year deadline."[130] The decision was not unanimous. A dissent emphasized that the majority misread the language of the statute and the 2005 amendments to the FPA, and that FERC's interpretation of the FPA is entitled to *Chevron* step two deference.[131] In September 2009, the Edison Electric Institute and others filed a petition for a writ of certiorari with the United States Supreme Court.[132]

The Fourth Circuit's *Piedmont* decision involves only one of the five statutory grounds that FERC may rely on in exercising its backstop authority. However, some interpret the decision as seriously hobbling FERC's ability to implement its backstop authority.[133] As Chairman Wellinghoff stated, "[The *Piedmont*] court's ruling is a significant constraint on the Commission's already-limited ability to approve appropriate projects to transmit energy in interstate commerce."[134] For example, the only section 216 proceeding initiated at FERC—Southern California Edison's application to build the Arizona portion of the Devers-Palo Verde Number 2 project[135]—seems to involve a denial of an application (rather than a state withholding approval), and it is unclear the extent to which any of the other criteria that would trigger FERC backstop authority are present. In any event, FERC will not get to decide the question(s) in that proceeding, since the company has decided to withdraw its application from consideration by FERC.[136]

In response to such concerns, several proposals pending before Congress would further expand FERC's authority to preempt state and local land use decisions. The Senate took the lead in initial proposals following the election of President Obama. A bill sponsored by Senator Harry Reid (D-Nev.), the majority leader, would allow DOE to designate "national renewable energy zones," based on locations that are capable of generating more than 1000 megawatts of renewable energy.[137] His approach basically retains the primary role of states in siting transmission lines, while

---

128 *Piedmont Envtl. Council*, 558 F.3d at 320 (limiting the interpretation of the phrase "withheld approval for more than one year" and reversing FERC's interpretation of the language of the Federal Power Act siting backstop authority to include the denial of the applications).

129 16 U.S.C. § 824p(b)(1)(C)(i) (2006).

130 *Piedmont Envtl. Council*, 558 F.3d at 315.

131 *Id.* at 321 (Traxler, J., dissenting).

132 Petition for a Writ of Certiorari, Piedmont Envtl. Council v. FERC, No. 09-343 (Sept. 17, 2009), *available at* http://www.nreca.org/Documents/PublicPolicy/SitingCertPetition.pdf.

133 In fact, it is questionable that it does so in a manner that will preclude the exercise of backstop authority in most instances. FERC has other statutory grounds that it can invoke to preempt a state, assuming the state does not deny an application and complies with those specific criteria. *See* 16 U.S.C. § 824p (2006). FERC and DOE also retain authority to expand NIETCs. *Id.* § 824p(a)(2). Even after *Piedmont*, a significant amount of backstop power remains with federal authorities.

134 *Transmission Infrastructure Hearing*, *supra* note 120, at 11 (testimony of Jon Wellinghoff, Acting Chairman, Federal Energy Regulatory Commission).

135 The project is described at *supra* notes 37–43 and accompanying text.

136 *See supra* note 43 and accompanying text.

137 Clean Renewable Energy and Economic Development Act, S. 539, 111th Cong. § 3 (2009).

expanding FERC's backstop authority in such areas.[138] A bill proposed by Senator Jeff Bingaman (D-N.M.) has been approved by the Senate Energy and Natural Resources Committee, which he chairs.[139] This bill would replace state transmission siting altogether with regional siting entities operating in conjunction with the Department of the Interior; however, an amendment to the bill that was approved in committee severely limits the ability of FERC to allocate the costs of new transmission for renewable resources on an interstate basis.[140]

In the meantime, the House of Representatives has adopted landmark climate change legislation—the "Waxman-Markey" bill[141]—that, among other things,[142] endorses a regional transmission planning model and includes the expansion of federal backstop authority over transmission.[143] The bill proposes regional planning entities for transmission and puts in place a system of FERC review of these plans for consistency with transmission planning principles.[144] These principles, which FERC would need to develop, will "facilitate the deployment of renewable and other zero-carbon and low-carbon energy sources for generating electricity to reduce greenhouse gas emissions while ensuring reliability, reducing congestion, ensuring cyber-security, minimizing environmental harm, and providing for cost-effective electricity services throughout the United States."[145] Other provisions expand FERC's backstop authority, but the primary scope of the expansion of federal authority in Waxman-Markey is limited to western interconnection states and does not expand FERC's power over transmission for eastern interconnection states, the Electric Reliability Council of Texas, Alaska, or Hawaii.[146] Under the Waxman-Markey bill, if a state fails to approve within one year the construction and routing of an application that is consistent

138 *Id.*

139 American Clean Energy Leadership Act of 2009, S. 1462, 111th Cong. (2009).

140 *See id.* § 121 (amending the Federal Power Act). As approved in committee, Senator Bingaman's bill authorizes FERC to allocate the costs of new transmission projects, although an amendment to this provision (known as the "Corker amendment") only allows FERC to allocate transmission costs to customers once it determines "the costs are reasonably proportionate to measurable economic and reliability benefits." *Id.*; Peter Behr, *U.S. Prepares More Regulatory Moves in Case Climate Bills Stall*, CLIMATEWIRE, Oct. 1, 2009, http://www.eenews.net/ public/climatewire/2009/10/01/2 (last visited Nov. 15, 2009) (noting that the Corker amendment "would prevent FERC from spreading the costs of major new transmission broadly across multi-state regions unless the commission could justify it by showing specific economic and grid reliability benefits"). For discussion of how this kind of measurable benefits requirement could severely limit the ability of FERC to allocate the costs of new transmission for renewable projects, see *Illinois Commerce Commission v. FERC*, 576 F.3d 470, 479 (7th Cir. 2009) (Cudahy, J., dissenting).

141 American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009).

142 Waxman-Markey also adopts a cap-and-trade program, to begin to price carbon emissions, and adopts a national renewable energy portfolio standard. *Id.* §§ 101, 311 (as passed by House, June 26, 2009) (establishing the Combined Efficiency and Renewable Electricity Standard and creating the Global Warming Pollution Reduction Program within the Clean Air Act).

143 *See infra* notes 144–47 and accompanying text.

144 H.R. 2454 § 151(b).

145 *Id.*

146 *Id.*

with a regional plan on file with FERC, rejects the application, or imposes "unreasonable" conditions on the project, FERC may preempt a transmission application and issue its own Certificate of Public Convenience and Necessity;[147] this overrules the effects of the Fourth Circuit's *Piedmont* decision. However, since it is expressly limited in application to states in the western United States, FERC's power to exercise backstop siting authority will vary depending on which region of the country a state is located.

While federal reform proposals have generated a wide range of solutions to state barriers to siting new transmission, the specific solutions pending before Congress share a common theme. The common theme is to expand federal (or, if not federal, regional) authority to preempt state land use decisions to address the problem of state and local governments withholding the power of eminent domain for new transmission lines. While state siting statutes do present some barriers, the near exclusive focus on siting authority has also polarized discussion about these proposed reforms. On the one hand are those who wish to significantly expand federal authority to preempt state land use and eminent domain decisions to promote new renewable projects. On the other hand are those who advocate for preservation of state and local control of land use and eminent domain decisions. There is little common ground between the two camps.

IV. THE TROJAN HORSE OF TRANSMISSION LINE SITING AUTHORITY

In the present situation, where states play a role and federal authority seems to be expanding, there is no clear political accountability for transmission planning and siting. Further, there is a risk that climate change goals could be undermined if federal authority over transmission siting is expanded without regulators addressing other issues. As argued in this Part, it is at least as important that regulators address issues related to transmission pricing. Failing to do so could result in investment in transmission that does not serve the purpose of promoting renewable energy sources, and may allow transmission expansion to crowd out efficiency and conservation improvements. In addition, addressing pricing could solidify the political strength of interests groups supporting transmission lines, including developers and investors, to better lobby for reforms over siting and land use issues at the state and regional level (as well as at the federal level).

A. Weakening Political Accountability

Historically, transmission planning was largely conducted by the vertically integrated utility, while siting proceedings were managed by state and local regulators.[148] Transmission was (and for the most part still is) financed in retail utility rates, which were approved by state regulators.[149]

147 *Id.*

148 *See supra* notes 11–15 and accompanying text.

149 *See infra* Part IV.B.2.

Under such circumstances, every developer and investor in transmission perceived transmission line siting as purely a state or local issue. The siting process balanced the public interest by assessing the costs and benefits of a transmission line, but its perspective focused primarily, if not exclusively, on in-state costs and benefits.[150] Transmission developers (primarily utilities) worked closely with state and local governments, and to the extent that there were state or local obstacles to transmission, utilities often negotiated by agreeing to conditions to the siting of new transmission lines.[151] There was little focus on the interstate market or on environmental impacts and, as described above, a larger focus on out-of-state benefits and costs was simply not a part of the process.[152]

The wholesale market and heightened attention to climate change have challenged this traditional paradigm. Today, there is a recognition among policy makers that an assessment of the costs and benefits of a new transmission line must extend beyond the residents of any individual state.[153] However, in most instances state law and regulatory processes remain serious obstacles to such considerations.[154] The predominant political solution has been to call for an expansion of federal power to preempt state and local regulators.[155] The expansion of federal backstop power retains a dual system in which both federal and state officials will continue to play a role. State siting proceedings remain relevant, but so also do the policies of federal regulators. Increases in federal transmission line preemptive power may promote greater uniformity between states, but to the extent state and local land use regulators retain considerable input in the process, this undermines any incentive utilities have to work with state and local regulators to strike a balance that best fits state and regional needs. For example, if it is expected that down the line an application for backstop siting authority may be filed with FERC, a utility may not invest the resources to work with state and local governments to reach agreement on conditions related to a transmission line's size or location. In this sense, a dual regulatory system for transmission line siting may undermine political accountability and create even more uncertainty for investors.

The current approach to siting may not only reduce the incentives for developers of transmission projects to invest in negotiating with state and local regulators to bargain for land use conditions that can mediate the adversarial nature of a siting refusal, it also could result in federal regulators evading responsibility for the issue. For example, following the *Piedmont* case, FERC itself contributed to the uncertainty by lobbying Congress for

150 *See supra* note 54 and accompanying text.

151 *See, e.g.*, THE BRATTLE GROUP ET AL., SURVEY OF TRANSMISSION SITING PRACTICES IN THE MIDWEST 11 (2004) ("In South Dakota, public input hearings are mandatory but a formal evidentiary hearing may be waived if all parties agree to a negotiated 'Terms and Conditions' for a permit and the agreement is accepted by the Commission.").

152 *See supra* Part II.B.

153 *Transmission Infrastructure Hearing*, *supra* note 120, at 11 (testimony of Jon Wellinghoff, Acting Chairman, Federal Energy Regulatory Commission).

154 *See supra* Part II.

155 *See supra* notes 137–44 and accompanying text.

expanded authority and complaining that it lacks the power it needs to site lines for renewable exports.[156] FERC Chairman Jon Wellinghoff, for example, interprets *Piedmont* as limiting FERC's authority, even though it deals with only one of five potential grounds FERC can invoke for preempting a state decision not to site a transmission line.[157] This is somewhat puzzling, given that FERC and DOE retain considerable power, even under the current state of the law.[158] However, it does seem apparent that the focus on lobbying Congress has led FERC and DOE to retreat from articulating a more ambitious program for redesignating NIETCs and siting transmission based on current statutory authority.[159]

B. Undermining Climate Change Goals

Moreover, an emphasis on siting may result in expansion of transmission infrastructure in ways that actually undermine climate change goals. There are two primary ways in which the expansion of transmission capacity can serve as a Trojan horse for climate change goals. One is by crowding out conservation and efficiency at the state level. The other is by providing excess capacity that can be used to transmit power from dirty, low cost sources.

1. Overreliance on Transmission

The first significant issue is that transmission itself might facilitate greater specialization between energy "sink" and energy "source" states. While such specialization in a state's energy economy is not per se problematic, it can result in a loss of control between the grid and the sources of electricity it transmits. It also can crowd out other desirable energy supply option programs if transmission is sited without attention to broader efficiency and conservation objectives.

Matters are complicated by the physical fact that transmission for renewable sources of electric power is not entirely fungible with transmission for nonrenewable sources of power. Every power source has a different level of dependability, based on its ability to provide firm, reliable

156 *Transmission Infrastructure Hearing*, *supra* note 120, at 8–10 (testimony of Jon Wellinghoff, Acting Chairman, Federal Energy Regulatory Commission).

157 *See supra* note 134 and accompanying text.

158 *See supra* Part III.B.

159 *See generally* Joshua P. Fershee, *Misguided Energy: Why Recent Legislative, Regulatory, and Market Initiatives Are Insufficient to Improve the U.S. Energy Infrastructure*, 44 HARV. J. ON LEGIS. 327, 331–32 (2007) (highlighting how there is limited authority for FERC and DOE to address NIETCs). To be sure, there are some limits on the authority of both FERC and DOE, but DOE may be able to draw on the discretionary criteria Congress specified in the 2005 amendments to the FPA to broaden approach the definition of NIETC's to include some areas that lack transmission for renewables in the future. *See supra* Part III.A.

power for consumers.[160] Renewable sources of generating electricity in particular are more likely to be unpredictable and unreliable to the extent that their availability depends on wind and other weather conditions.[161] To ensure reliability, the grid needs to have sufficient reserves in transmission to accommodate possible surges, as well as quickly deployable backup sources of power should intermittent renewable sources become unavailable. Wind, for example, will demand more power lines and substations than coal-fired plants, which provide a steady stream of electricity.[162] If the wind is blowing hardest in Colorado, yet needed in California, there must be lines available to transport the power.[163] It is for this reason that it is widely perceived that a large increase in renewable energy resources will not only require transmission lines in new locations of the United States, but also will require more transmission infrastructure than historically may have been necessary for fossil fuel sources of electricity.[164]

However, as an economic matter, expanding transmission on a large-scale, and to larger degrees than would have been necessary in the past, could easily backfire, undermining the very climate change goals it purports to advance. As has been reported:

> Complicating the debate, many proposed power lines that could carry renewable energy to market could also end up carrying coal-fired power. An improved national grid would end the situation that prevails at many hours in the East today, when coal plants that can produce power cheaply sit idle while cleaner natural gas plants are running full tilt, able to sell their more expensive power because grid traffic is so bad that the coal power cannot reach the market.
>
> That configuration costs consumers money but also reduces emissions of the carbon-dioxide emissions that cause climate change. So contrary to expectations,

160 *See* N. AM. ELEC. RELIABILITY CORP., RELIABILITY ASSESSMENT GUIDEBOOK: VERSION 1.2, at 9 (2009), *available at* http://www.nerc.com/files/Reliability_Assessment_Guidebook-08-24-09-clean.pdf (explaining characteristics of reliable power sources).

161 It is for this reason that many refer to such resources as "intermittent." *See, e.g.*, *id.* at 45 (describing wind and hydropower as intermittent resources). In fact, the extent to which a resource is firm is always a matter of degree. In addition, there may be technologies available, such as flywheels for wind and thermal storage for solar, to help stabilize the reliability of renewable sources of electricity. *See id.* at 38 (discussing reliability of renewable power supplies); Lena M. Hansen, *Can Wind Be a "Firm" Resource? A North Carolina Case Study*, 15 DUKE ENVTL. L. & POL'Y F. 341, 378 (2004) (listing physical storage options for wind energy); Gene Wolf & Rich Bush, *Utilities Bulk Up on Energy Storage*, TRANSMISSION & DISTRIBUTION WORLD, Aug. 2009, at 20, 21–22.

162 U.S. DEP'T OF ENERGY, 20% WIND ENERGY BY 2030: INCREASING WIND ENERGY'S CONTRIBUTION TO U.S. ELECTRICITY SUPPLY 93 (2008), *available at* http://www.20percentwind.org/20percent_wind_energy_report_revOct08.pdf.

163 *See id.* at 11 (discussing the need for expanded transmission infrastructure to transport wind power); Christopher Martin & Mario Parker, *Wind Promises Blackouts as Obama Strains Grid with Renewables*, BLOOMBERG.COM, Aug. 7, 2009, http://www.bloomberg.com/apps/news?pid=washingtonstory&sid=arbHcz0ryM_E (last visited Nov. 15, 2009).

164 *See* U.S. DEP'T OF ENERGY, *supra* note 162, at 93 (stating that an expansion of the transmission grid is necessary to enable delivery of wind-generated electricity); Martin & Parker, *supra* note 163 (stating that there is a need for development of the transmission infrastructure to bring renewable energy from remote production areas to consumption areas).

> one effect of a stronger grid, although ardently sought by supporters of renewable energy, could be to push costs down but nudge coal-fired emissions up.[165]

If the grid is expanded without attention to how economic decisions in the allocation of transmission capacity are made, there is no guarantee that it will be used by new sources of power generation as opposed to existing plants. As a physical matter, electrons follow the path of least resistance, and expanding transmission will simply allow existing generation sources to reach new markets.[166] Such expansion may benefit wholesale power markets, but it will not necessarily advance climate change goals. Allocating transmission capacity is no easy task. Since electrons follow the path of least resistance, there is no simple way regulators can determine which electrons will use which transmission lines.[167] The only effective way to allocate transmission is by pricing it to reflect scarcity and various opportunity costs.[168]

Overbuilding transmission could have other consequences as well. In particular, expanding transmission allows for more economical development of large-scale power generation projects.[169] As such, it can crowd out efficiency, conservation, and other demand reduction efforts. Such efficiency, conservation, and demand reduction efforts are largely managed at the state level, where costs and benefits are assessed from the perspective of in-state customers.[170] However, as we move towards developing a more interstate grid, a regional approach may be the best way to balance efficiency and conservation objectives. Transmission capacity for renewable sources may take away from incentives that sink state regulators have to improve efficiency, promote conservation, and reduce the demand for electricity. Sink states, such as California,[171] are net power importers and should not be able to externalize their own poor policy decisions on other states, such as source (or power exporting) states and energy transmitting states, absent some showing that they are comparing the regional costs and benefits of broader efficiency and conservation goals to the regional costs and benefits of transmission line siting.

---

165 Matthew L. Wald, *Debate on Clean Energy Leads to Regional Battle over Jobs*, N.Y. TIMES, July 14, 2009, at A13.

166 Katja Keller & Jorg Wild, *Long Term Investment in Electricity: A Trade-Off Between Co-Ordination and Competition?*, 12 UTIL. POL'Y 243, 245 (2004).

167 *Id.*

168 *See generally* James F. Wilson, *Scarcity, Market Power, and Price Caps in Wholesale Electric Power Markets*, ELECTRICITY J., Nov. 2000, at 33, 33–44 (discussing the relationship between scarcity, opportunity cost, and market regulation in the context of electrical utility rate setting).

169 *See* PETER FOX-PENNER, ELECTRIC UTILITY RESTRUCTURING: A GUIDE TO THE COMPETITIVE ERA 225 (1997) (discussing generators' need for expanded transmission for efficiency and reliability purposes).

170 Struble, *supra* note 69, at 577.

171 More than 30% of California's electric power demand is imported from elsewhere. *See* CAL. ENERGY COMM'N, 2009 INTEGRATED ENERGY POLICY REPORT 2 (2009), *available at* http://www.energy.ca.gov/2009publications/CEC-100-2009-003/CEC-100-2009-003-CTD.PDF.

2. The Need for Carbon Neutral Transmission Pricing

At core, these issues will not be solved until transmission is appropriately priced in a way that allows various investors in power plants and plant operators to make allocative decisions in their market transactions regarding transmission. A major obstacle is that, under the current regime, pricing is controlled almost exclusively by state regulators, not by the interstate market.[172] State regulators build the costs of new transmission into retail rates, which means that they are largely paid for by in-state customers.[173] Since retail rate base is a limited universe of rate payers,[174] there is not an effective vehicle at the state level to ensure that transmission is priced so that those who benefit from it pay the costs associated with it. Where there is a mismatch between cost allocation and benefits, it is more likely that investors will be making suboptimal decisions about whether to invest in transmission. The result could be under-investment in some areas of the country, which does not allow sufficient incentives for expanding the grid even if the siting authority problem is addressed. In other areas of the country, over-investment in transmission may result, creating some of the problems highlighted above.

At a broad level, if a significant part of the transmission grid is to be preserved for renewable sources of electric power, there are two possible solutions to this pricing problem. One solution is for Congress to link any expansion of transmission authority to the adoption of a cap-and-trade program that fully internalizes the social costs related to climate change in the cost of carbon emission allowances. If the cost of electricity in the wholesale power market reflects the full carbon costs associated with its production, decisions about the allocation of the grid will take this into account even if it is not reflected in the actual prices of transmission. While there may be a way to imagine this as a matter of economic theory, it is less likely when implemented in the political process where interest group dynamics, rather than economic principles, steer carbon credit allocations.[175] Even if Congress can garner the political will to pass cap-and-trade legislation, it is highly unlikely that every energy resource will be priced in a carbon-neutral manner (rather than a manner that reflects interest group dynamics).

---

172 Donald F. Santa, Jr. & Clifford S. Sikora, *Open Access and Transition Costs: Will the Electric Industry Transition Track the Natural Gas Industry Restructuring?*, 25 ENERGY L.J. 113, 119–20 (2004).

173 *See generally* Susan Kelly & Elise Caplan, *Time for a Day 1.5 Market: A Proposal to Reform RTO-Run Centralized Wholesale Electricity Markets*, 29 ENERGY L.J. 491, 491 (2008) (highlighting the burden of infrastructure needs and other costs on the consumer).

174 *See* Denise L. Desautels, *Who Should Regulate the Siting of Electric Transmission Lines Anyway? A Jurisdictional Study*, ELECTRICITY J., May 2005, at 11, 14.

175 *See generally* PowerPoint: Christopher Sherry, N.J. Dep't of Envtl. Prot., Regional Greenhouse Gas Initiative (RGGI) Allocation Approach: Achieving Least-Cost Reductions Through a Consumer Allocation Framework, Presentation at the Meeting of the Economic and Allocation Advisory Committee 5–6 (July 1, 2009), *available at* http://www.climatechange.ca.gov/eaac/meetings/2009-07-01/documents/Presentation_Christopher_Sherry_Regional_Greenhouse_Gas_Initiative_RGGI.pdf (explaining the market rationale for incorporating carbon compliance costs into wholesale power market prices).

Another solution, which seems necessary as we put in place any infrastructure to encourage the development of renewable resources, will be for voluntary coordination between state authorities or regional transmission offices (RTOs) in pricing transmission, or for FERC to price transmission. While transmission pricing will need to incorporate efficiency goals in order to avoid overcapacity, transmission pricing also may need to incorporate climate change goals and the preferences for different generation technologies, including renewable sources, in different regions of the country. For example, since many renewable resources, such as wind, will require additional transmission capacity over their fossil fuel alternatives,[176] transmission pricing based purely on physical congestion may leave wind at a serious economic disadvantage. In order for renewable energy resources to have economic access to transmission in ways that will allow them to compete with traditional fossil fuels, they may need more transmission resources than their alternatives. Pricing mechanisms will need to incorporate reserve margins for different fuel sources that are neutral to the carbon content of the fuel used to generate electricity. This is probably best achieved through a reserve subsidy built into the pricing mechanism, although whether this is paid for by federal regulators, state regulators, or regional bodies will depend on the shape of the institutional pricing authority.

In addition to state legal barriers, there are broader governance barriers—at the levels of federal and regional governance—to the evolution of the public interest to accommodate new transmission pricing issues. A heightened role for regional coordination seems inevitable, as the Waxman-Markey bill envisions.[177] However, the precise form of regional governance bodies and the role states will play in the regional governance process seems quite uncertain. The uncertainty associated with governance decisions in planning and siting transmission—that is, who, precisely, will make decisions—alone may make it difficult for the extant legal regime to attract the kind of capital necessary to sufficiently expand the transmission grid to allow states to fully take advantage of export and import opportunities.

A purely state-led approach to coordination, such as the Regional Greenhouse Gas Initiative (RGGI) in the Eastern United States,[178] may provide a model. However, this approach may lack the certainty of a binding legal regime and may be subject to the same kinds of legal challenges that have recently been mounted against the RGGI.[179] As an alternative, a top down regional planning and siting process, which is led by federal principles

176 *See supra* Part IV.B.1.

177 *See supra* notes 141–47 and accompanying text (discussing the Waxman-Markey bill).

178 Information regarding the RGGI is available at RGGI, Inc., Welcome, http://www.rggi.org/home (last visited Nov. 15, 2009). As Steven Ferrey discussed, implementation of the RGGI presents a host of potential constitutional and legal barriers. Steven Ferrey, *Goblets of Fire: Potential Constitutional Impediments to the Regulation of Global Warming*, 35 ECOLOGY L.Q. 835, 839–41 (2008) (discussing various possible constitutional issues with state-led initiatives to regulate carbon dioxide emissions).

179 *See, e.g.*, Petition and Complaint at 1, Indeck Corinth, L.P. v. Paterson, RJI No. 2009/0369 (N.Y. Sup. Ct. Jan. 29, 2009).

such as those endorsed in Waxman-Markey,[180] may produce a more uniform set of principles to guide governance and overcome some of the obstacles of a purely state-led approach to regional coordination. Even this, however, is not without its costs, as to truly be effective, any regional body must engender a sufficient common purpose of cooperation among its stakeholders to overcome the strong incentives an individual state may face in defecting to the in-state benefits that have predominated in the conventional public utility paradigm.

Associated with a move to interstate governance models are even more complicated questions associated with cost sharing. From a rate-making perspective, the costs of transmission infrastructure are best spread among all of its beneficiaries, whether they are located in or out of state. The conventional public utility model poses a formidable barrier to such a cost-sharing principle. A recent report by the Center for American Progress states the problem as follows:

> Under typical practices for financing electrical transmission . . . the costs of projects are paid for principally by the ratepayers in the particular area where the project is built. This policy creates a strong disincentive for utilities and their state regulators to invest in transmission that will have broader social benefits that extend beyond their jurisdictional boundaries. Thus, due to our system of cost recovery, as a nation we have underinvested in the backbone electrical grid, relative to the benefits it could provide. Moving forward, the costs of future investments in the national clean-energy smart grid will need to be shared differently, reflecting the broadly dispersed environmental and economic benefits that these projects will generate for our country.[181]

Because the primary beneficiaries are not located entirely in the state in which many transmission facilities will be built, the state rate-making process alone will likely prove insufficient as a mechanism for facilitating such cost sharing.

Cost-sharing principles will need to evolve in ways that transcend individual state regulators, also presenting new governance challenges. One solution may be to encourage cost sharing as a voluntary governance principle between utilities at the regional level. For example, the Western Electricity Coordination Council (WECC), formed in 2002, provides an opportunity for such coordination.[182] Through standard tariffs terms, WECC can provide a set of principles to assist state regulators in ensuring that cost allocation principles are not overly parochial and that there is not a

---

180 American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 151 (as passed by House, June 26, 2009).

181 BRACKEN HENDRICKS, CTR. FOR AM. PROGRESS, WIRED FOR PROGRESS: BUILDING A NATIONAL CLEAN-ENERGY SMART GRID 24 (2009), *available at* http://www.americanprogress.org/issues/2009/02/pdf/electricity_grid.pdf.

182 W. Elec. Coordinating Council, About WECC, http://www.wecc.biz/About/Pages/default.aspx (last visited Nov. 15, 2009).

significant mismatch between the benefits of new transmission and those who pay for it, whether they are located in or out of state.[183]

Other solutions include more formalized arrangements or an expansion of federal power. Although under current institutions they may not be a sufficient solution in some areas of the country, such as within the Western Interconnection or in Florida, independent system operators (ISOs) and regional transmission organizations (RTOs) hold some promise as a model for cost sharing in other parts of the country.[184] Even their cost-sharing mechanisms have proved problematic.[185] According to the Center for American Progress, "[e]ven in RTOs and ISOs with cost-allocation mechanisms and benefits analysis, cost-allocation decisions are often protracted and contentious."[186] An RTO or an ISO may be insufficient as a mechanism for cost sharing where the benefits accrue beyond the RTO or ISO to a broader set of beneficiaries.

Finally, as a last resort, if states and regional bodies cannot sufficiently address the issue on their own, cost sharing may become an issue of federal regulation. In part, FERC maintains that this is because it lacks sufficient legal authority to do so and it is lobbying Congress to expand its power to more affirmatively build transmission costs into its own price setting authority. According to FERC Chairman Wellinghoff:

> Under FPA Sections 205 and 206, the Commission ensures that public utilities' (investor-owned utilities) rates, terms and conditions of transmission service in interstate commerce are just, reasonable, and not unduly discriminatory or preferential. This responsibility includes allocating the costs of new transmission facilities built by public utilities. At present, the Commission has greater ability to assign such costs over broad geographic areas where there is a regional transmission organization (RTO) or independent system operator (ISO).
>
> If Congress determines that there are broad public interest benefits in developing the . . . transmission system necessary to accommodate the Nation's renewable energy potential, and therefore that the costs of transmission facilities needed to meet our renewable energy potential should be fairly spread to a broad group of energy users (for example across a region or an entire interconnection), then Congress should consider giving the Commission clear

183 *See* W. ELEC. COORDINATING COUNCIL, BYLAWS OF THE WESTERN ELECTRICITY COORDINATING COUNCIL 36 (2009) (providing bylaw requirement that members offer transmission service to other members without respect to in- or out-of-state status).

184 *See generally* ISO/RTO COUNCIL, THE VALUE OF INDEPENDENT REGIONAL GRID OPERATORS 7 (2005), *available at* http://www.isorto.org/atf/cf/%7B5B4E85C6-7EAC-40A0-8DC3-003829518EBD%7D/Value_of_Independent_Regional_Grid_Operators.pdf (discussing the values of RTO and ISO transmission organizations).

185 Edward N. Krapels, *The Angle of Repose in Electricity Restructuring: The 2003 Energy Act, FERC, and the Outlook for Transmission Investment*, 17 ELECTRICITY J. 16, 18 (2004).

186 HENDRICKS, *supra* note 181, at 22.

> authority to allocate such transmission costs to all load-serving entities within an interconnection or part of an interconnection.[187]

While FERC has not exactly been a leader in articulating an effective set of cost-sharing principles for transmission, FERC sees its current jurisdiction as limited. Whether it will remain so depends on whether Congress sees the current state- or regional-based approaches to allocating the costs of transmission and pricing it as sufficient.

V. CONCLUSION

While there is some evidence that state approaches to siting transmission are beginning to evolve, the concern that transmission line siting cannot be sufficiently handled at the state level alone is also legitimate. State transmission siting statutes do not provide an adequate legal mechanism to ensure the consideration of regional benefits and, to the extent in-state benefits predominate as the driving factor for siting decisions, will stand as a significant barrier to planning and constructing new high-voltage transmission facilities to transport power from renewable sources. Regional compacts or some expansion of federal authority will probably be necessary in some areas of the United States. However, this Article has argued that expanding federal authority over transmission line siting alone—as those who invoke the superhighway analogy to electricity transmission typically advocate—is not a panacea to state regulatory obstacles to new transmission infrastructure. At the extreme, this Article has argued expanding federal authority to allow transmission line siting without a full assessment of its costs and benefits, reflected in the anticipated price purchasers will pay for transmission, can undermine climate change goals.

Unlike the federal superhighway system, which provides free public access to taxpayer-subsidized roads, electricity power transmission infrastructure is largely financed by private investors.[188] Thus, to be successful, any federal clarification of siting authority must be coupled with clearer authority over transmission pricing and a pricing policy that does not encourage wasteful construction of transmission or reserve pricing that is uneconomic to renewable sources. Indeed, there is some reason to think that, if we could sort out the pricing issue, providing clearer incentives for investors, interest groups would also have greater certainty about what, precisely, is at stake for economic development in the siting process. At the core, clearer incentives for private investors could prove more important than who makes the decision about siting and eminent domain at the public level.

---

187 *Transmission Infrastructure Hearing*, *supra* note 120, at 12 (testimony of Jon Wellinghoff, Acting Chairman, Federal Energy Regulatory Commission).

188 HYMAN, *supra* note 11, at 6; Fed. Highway Admin., U.S. Dep't of Transp., Dwight D. Eisenhower National System of Interstate and Defense Highways, http://www.fhwa.dot.gov/programadmin/interstate.cfm (last visited Nov. 15, 2009).