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THE ENVIRONMENTAL RESPONSIBILITY OF THE REGIONALIZING ELECTRIC UTILITY INDUSTRY

JOEL B. EISEN†

*Power transactions trading at lowest cost will eliminate certain environmental and renewable resources, which trade above the market clearing power price, unless otherwise protected by government policy.*¹

The invitation to this symposium prompted me to do some serious head scratching. Would I discuss whether “environmental regulations currently act as a barrier to entry in energy markets and whether the current regime strikes the right balance between environmental protection and efficiency”?² In this time of massive uncertainty over the future of “energy markets,” could environmental laws be the roadblock to progress?

In my view and those of numerous others,³ progress toward wholesale and retail markets (“restructuring”) has slowed through poor design of the regulatory and technical infrastructure and the combination of California, Enron,⁴ the uncertain future of FERC’s Standard Market Design (“SMD”)⁵ and Wholesale Power Market Platform (“WPMP”)⁶ proposals, states grappling with “stranded

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1. Steven Ferrey, *Sustainable Energy, Environmental Policy, and States' Rights: Discerning the Energy Future Through the Eye of the Dormant Commerce Clause*, 12 N.Y.U. ENVTL. L.J. 507, 523 (2004).

2. Letter from Allison H. Ridder, Special Projects Editor, Duke Environmental Law and Policy Forum, to Joel B. Eisen 1 (June 17, 2004) (on file with Duke Environmental Law and Policy Forum).

3. See generally 41 WAKE FOREST L. REV. (forthcoming 2005).

4. See generally ENRON: CORPORATE FIASCOES AND THEIR IMPLICATIONS (Nancy B. Rapoport and Bala G. Dharan eds., 2002).

5. Remedying Undue Discrimination Through Open Access Transmission Service and Standard Electricity Market Design, 67 Fed. Reg. 55,452 (FERC proposed Aug. 29, 2002, to be codified at 18 C.F.R. pt. 35).

6. FED'L ENERGY REG. COMM'N, *WHOLESALE POWER MARKET PLATFORM WHITE PAPER* (2003) available at http://www.ferc.gov/industries/electric/indus-act/smd/white_paper.pdf.

costs” and other transition issues, and complex problems of market structure and operation. Indeed, some of the same luminaries in the field who are participants in this Symposium will be contributing papers to a symposium early next year on “Realizing the Promise of Electric Deregulation.”⁷

Even those who haven’t yet given up on restructuring don’t put much blame on environmental laws.⁸ But that hardly means that there aren’t important environmental considerations in restructuring. In this Article, I will address environmental issues in the context of our rapidly evolving understanding of “restructuring.” The market for electricity is fast becoming a series of regional marketplaces for wholesale transactions, operating on bid-based systems that move power at the lowest cost.⁹ There are plenty of states where power is still delivered as it has been for decades: by “bundled” service provided by vertically integrated utilities.¹⁰ However, the trend is toward regionalization, where independent entities control the transmission grid and play a major role in determining how power is delivered. These market participants, confusingly, have been known by a number of names and acronyms, though the most recent one is “regional transmission organizations” (“RTOs”).¹¹ The trend toward regional

7. 41 WAKE FOREST L. REV *supra*, note 3. My own essay will be titled *Regulatory Linearity, Commerce Clause Brinkmanship, and Retrenchment in Electric Utility Restructuring*.

8. Richard J. Pierce, *Environmental Regulation, Energy & Market Entry*, 15 DUKE ENVTL. L. & POL’Y F. 167 (2005). In his upcoming essay, *Realizing the Promise of Restructuring the Electricity Market*, 41 WAKE FOREST L. REV., *supra* note 3 (abstract available at SSRN Electronic Paper Collection, http://papers.ssrn.com/paper.taf?abstract_id=585706 (last visited March 25th, 2005)), Professor Pierce argues that “the major political impediment to completion of the restructuring process consists of a group of politically powerful electric utilities in the southeast and northwest who have consistently opposed restructuring because they prefer the comfortable and profitable life of an ineffectively-regulated monopolist to participation in a competitive market.”

9. See, e.g., D. Mitchell McFarland et al., *Applicability of the Uniform Commercial Code to Sale of Electric Power in the Wholesale Power Marketing Context*, 21 CORP. COUNS. REV. 251, 256 (2002) (noting that, “Centralized power markets now exist in which suppliers may submit bids to sell to regional markets and various trading hubs have emerged across the country trading power on a bilateral basis.”)

10. U.S. Dept. of Energy, Energy Information Admin., *Map and Status of State Electric Industry Restructuring Activity*, available at http://www.eia.doe.gov/cneaf/electricity/chg_str/restructure.pdf (last visited March 28, 2005) (map showing that half of the states have not begin to restructure); Joseph P. Tomain, *2002 Energy Law Symposium: The Past and Future of Electricity Regulation*, 32 ENVTL. L. 435, 438 (2002).

11. RTOs evolved from “ISOs” (Independent System Operators) in FERC’s Order No. 2000, *Regional Transmission Organizations*, 65 Fed. Reg. 809 (June 6, 2000) (codified at 18 C.F.R. pt. 35).

marketplaces continues unabated, even in the face of uncertainty about FERC regulatory efforts.¹²

Environmental laws are not nearly as important as other business considerations in their impact on utilities' decisions to pool their assets. That discussion centers largely on considerations that don't have much to do with environmental laws: whether the profit motive is enough of an incentive for transmission firms to manage the grid properly, ensure reliability, or build new capacity. There is an important set of environmental concerns in the transmission area involving the ongoing controversy over the siting of new transmission lines. As Professors Rossi and Pierce explain in depth in their articles, opponents of new projects can use state and local laws to delay or even stop new transmission lines.¹³ So for the moment I will focus on a different intersection of environmental laws and a regionalizing industry: the impacts on generation of electricity.

I. ENVIRONMENTAL LAWS' INFLUENCE ON GENERATION

The electricity system has three parts: generation, transmission and distribution,¹⁴ though the delineations among the three are becoming less clear.¹⁵ Would there be more generators pouring their power into the new regional markets but for environmental regulators and their insistence that pollution be controlled?

Undeniably, the environmental laws make it difficult for some potential entrants in the generation business. A nuclear power plant can take more than a decade to get from the drawing board to operation, and much of that time would be spent in mandated environmental reviews.¹⁶ FERC has not seriously contemplated any new nu-

12. See Greg Edwards, *Va. Power Tells SCC of Regional Grid's Cost; Utility Says Joining is a New Expense and Customers Who Will Benefit Should Pay*, RICHMOND TIMES-DISPATCH, Oct. 27, 2004, at C-1.

13. Jim Rossi, *Transmission Siting in Deregulated Wholesale Power Markets: The Cross-Sound Cable As a Case Study of FERC's Role Under Existing Law* 15 DUKE ENVTL. L. & POL'Y F. 315 (2005); Pierce, *supra* note 8.

14. See, e.g., Jeffery S. Dennis, *Federalism, Electric Industry Restructuring, and the Dormant Commerce Clause: Tampa Electric Co. v. Garcia and State Restrictions on the Development of Merchant Power Plants*, 43 NAT. RESOURCES J. 615 (2003). Due to the high cost of establishing new, duplicative facilities, there is little chance of a movement toward free, unfettered competition in distribution.

15. See William Hogan, *Market Power in Theory and Practice* at 2, available at <http://ksghome.harvard.edu/~whogan/powr0300.pdf> (noting that "[t]he usual separation into generation, transmission, and distribution is insufficient.") (March 17, 2000).

16. Joseph P. Tomain, *Nuclear Futures*, 15 DUKE ENVTL. L. & POL'Y F. 221 (2005).

clear plants since before I began law school in 1982.¹⁷ Some, of course, might think of this as a salutary effect of environmental laws. Others point to the difficulties associated with getting state-of-the-art natural gas plants on line as evidence of a barrier to entry posed by the environmental laws, and it would be hard to argue that environmental reviews have not played a part in that situation.¹⁸

Professor David Spence mentions a pervasive fear that existed at the outset of restructuring: that utilities operating dirtier coal-fired power plants in a deregulated environment could sell their output nationwide, thus giving them an incentive to fire up antiquated plants and increase air pollution and adverse environmental effects.¹⁹ The utility industry has the doubly dubious distinction of being one of the nation's most significant polluters and one of the most consistent avoiders, delayers, and subverters of enforcement.²⁰ The loopholes, intransigence of utility companies, and only moderately successful enforcement record have allowed utilities to operate in the shadow of the law.²¹ Thus, it would be dangerous, frankly, to encourage utilities to emit more pollution into the air without regard for the environmental consequences.

Restructuring may or may not have encouraged more pollution; Professor Spence and others have some doubt about that.²² One reason restructuring took place in the first instance was a flood of new

17. *Id.*

18. One example I am familiar with is the protracted battle over a proposal by Tractebel, a Houston-based energy company, to build a power plant near Leesburg, Virginia. Tractebel withdrew its application after running into considerable opposition from local residents and the public interest environmental group Piedmont Environmental Council. See Piedmont Environmental Council, Power Plant Campaign, available at <http://www.pecva.org/powerplants/tractebel.asp> (last visited March 28, 2005); David Bradkey, *Tractebel ends plan to build in Loudoun*, Loudoun Easterner, Feb. 27, 2002, available at <http://www.easterner.com/articles02/022702/content.htm>.

19. David B. Spence, *Coal-Fired Power in a Restructured Electricity Market*, 15 DUKE ENVTL. L. & POL'Y F. 187 (2005). See also NAT'L COUNCIL ON ELEC. POLICY, A COMPREHENSIVE VIEW OF U.S. ELECTRICITY RESTRUCTURING WITH POLICY OPTIONS FOR THE FUTURE 65, available at <http://www.ncouncil.org/restruc.pdf> (June 2003).

20. In a recent issue of this journal, a Vermont Law School professor states that utilities make up "an industry notorious for stonewalling air quality regulation." Patrick Parenteau, *Anything Industry Wants: Environmental Policy Under Bush II*, 14 DUKE ENVTL. L. & POL'Y F. 363, 369 (2004).

21. See generally Joel B. Eisen, *A Critique of the Regulations Revising the U.S. Clean Air Act's New Source Review Program*, 13th World Clean Air and Environmental Protection Congress and Exhibition, London, United Kingdom (forthcoming Aug. 2004); Parenteau, *supra* note 20, at 375-78 (discussing NSR "myths and realities").

22. Spence, *supra* note 19.

generation entrants, spurred on by the Public Utility Regulatory Policy Act ("PURPA") and Energy Policy Act of 1992 ("EPA"), that prompted FERC, Congress, and state legislatures to consider the merits of industry-wide competition.²³ A large number of natural gas plants have come on line in the past decade, though the trend slowed recently.²⁴ If there has been any pervasive impact at all on new generation from environmental laws in restructuring, it may well have been the salutary effect of marginally encouraging the switch from dirtier fuels (principally coal) to relatively cleaner ones (principally natural gas) among new entrants, though market conditions for basic fuels are also important.²⁵

Of course, the primary focus on the environmental impacts of generation in a restructuring environment has been a nationwide debate over regulation of utilities under the Clean Air Act ("CAA"). As others and I have pointed out, the CAA New Source Review program has been a lightning rod of controversy and it is hard to imagine that anyone today would seriously contend that it has achieved the objective of controlling emissions from power plants.²⁶ We have compelling evidence, of course, that it has been a major failure.²⁷ While it might be worth discussing replacing the existing system of regulation in whole or part with a "second generation" technique such as a carbon tax or cap and trade system,²⁸ this raises a complex set of issues that would take us well beyond the focus of this Symposium.

II. "ENVIRONMENTAL" LAWS PROMOTING RENEWABLE RESOURCES

I would like to focus on the "barrier to entry" question in another context, namely, governmental policies that promote market

23. 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, 128 (2004).

24. See Justin M. Nesbit, *Commerce Clause Implications of Massachusetts' Attempt to Limit the Importation of "Dirty" Power in the Looming Competitive Retail Market for Electricity Generation*, 38 B.C.L. Rev. 811, 816-17 (1997) (crediting for restructuring the flood of new wholesale generators resulting from PURPA and EPA).

25. *Id.*

26. See Deepa Varadarajan, *Billboards and Big Utilities: Borrowing Land-Use Concepts to Regulate "Nonconforming" Sources Under the Clean Air Act*, 112 Yale L.J. 2553, 2577 (2003) (noting the deficiencies of New Source Review in raising standards for older sources).

27. See TOMAIN, *supra* note 16. See also *supra* text accompanying note 18.

28. One example is the Bush Administration's controversial "Clear Skies Initiative." See *Clear Skies*, available at <http://www.epa.gov/clearskies/> (last visited March 28, 2005).

entry of renewable resources. In a regional electricity marketplace, the market maker, not the government, presumably decides what electricity gets made and to whom it is sold. Thus, critics have forcefully suggested for over a decade that regulatory devices introducing non-market mechanisms conflict with the fundamental premise of deregulation, whether they are premised on environmental or any other considerations.²⁹

Speaking of a barrier to entry in this context is illuminating, though probably not in the sense opponents of environmental mechanisms have in mind. The most common “barrier” is that faced by firms that use renewable resources to generate electricity. Wind power is considered too intermittent to bring online; solar power is not cost-effective, etc.³⁰ A large array of tools and techniques exist to promote renewable resources. These environmental mechanisms—the “avoided cost” provision of PURPA or the production tax credit for electricity generated from renewable resources, among others³¹—endeavor to encourage entrants, not deter them.

There are numerous reasons to promote environmentally friendly generation in a restructuring environment. It would reduce air pollution; even assuming for the moment that traditional environmental regulation could internalize the harmful effects of air pollution from fossil fuel-fired plants, we have not accounted for potential advantages of renewable resources that produce no pollution at all. Generating electricity from renewable resources would improve our profile of greenhouse gas emissions.³² There are other advantages

29. See, e.g., Bernard S. Black & Richard J. Pierce, Jr., *The Choice Between Markets and Central Planning in Regulating the U.S. Electric Industry*, 93 COLUM. L. REV. 1341 (1993) (arguing that heavy governmental intervention that has characterized energy policy since inception is no longer viable); Jerry Taylor & Peter VanDoren, *Cato Institute Policy Analysis No. 422, Evaluating the Case for Renewable Energy: Is Government Support Warranted?*, available at <http://www.cato.org/pubs/pas/pa-422es.html> (Jan. 10, 2002) (arguing that rationales for subsidies promoting renewable energy are without sound economic basis).

30. See Kathleen C. Reilly, *Global Benefits Versus Local Concerns: The Need for a Bird's Eye View of Nuclear Energy*, 70 IND. L.J. 679, 699 (1995) (noting that many experts believe that solar and wind power are unworkable).

31. See James W. Moeller, *Of Credits and Quotas: Federal Tax Incentives for Renewal Resources, State Renewable Portfolio Standards, and the Evolution of Proposals for a Federal Renewable Portfolio Standard*, 15 FORDHAM ENVTL. L. J. 69, 72-78, 89 (2004) (explaining the intricacies of the production tax credit for electric power generated from renewable resources). See also Pub. L. No. 102-486, § 1914(a), 106 Stat. 2776, 3020 (codified at 26 U.S.C. §45(c)(1992)).

32. See, e.g., Union of Concerned Scientists, *Electricity Restructuring*, available at http://www.ucsusa.org/clean_energy/renewable_energy/page.cfm?pageID=92 (last visited March 28, 2005) (noting that “[e]lectricity generation is the source of 36% of the carbon dioxide contributing to global warming”).

stemming from the fact that these facilities tend to be more decentralized than large conventional power plants. They reduce the risk of terrorism-related disruption of the electricity supply.³³ By being decentralized they also introduce a diversity in supply that might help alleviate future shortages.

Thus, there seems to be an important role for environmental mechanisms in a competitive environment. Some would disagree, often emphatically. In 1993, Professor Richard Pierce, a participant in this Symposium, opposed ongoing efforts to integrate environmental considerations in electricity restructuring through such devices as subsidies for energy-efficiency investments.³⁴ At the time he saw two competing revolutionary armies: swashbuckling free marketers attempting to make inroads in the Stalinist citadels of the electric utility industry (who already had the proverbial nose under the camel's tent with the pro-competitive provisions of PURPA and the EPAct) and environmental advocates who were trying to force their agenda through anti-competitive behavior.³⁵

Professor Pierce's comments in 1993 reflected an important reality. As things stood then—and, as I will demonstrate, now—those trying to make electricity more environmentally friendly and those trying to make it more competitive could not easily coexist, if at all. Any battle over a renewable portfolio standard or other “environmental” provision pits crusaders for change (different kinds of change, to be sure), each of whom has the fervent conviction that they are right, against one another. It is a recipe for perpetual tension.

Dean Joseph Tomain, another of our Symposium participants, has observed a fundamental disconnect between the “energy” world and the “environmental” world.³⁶ This is not surprising. Energy policy is premised on developing and nurturing reliable sources of power to accommodate growth and development; Environmental policy is premised on preserving resources, and, most importantly, forcing decision makers to account for the full social cost of their actions.

33. Ferrey, *supra* note 1, at 518.

34. See Black & Pierce, *supra* note 29, at 1354 (arguing that “negawatt acquisition programs,” in which utilities subsidize investments by their customers that decrease customers' electricity consumption, are generally not cost-effective and produce minimal environmental gains).

35. *Id.* at 1361.

36. Joseph P. Tomain, *2002 Energy Law Symposium: The Past and Future of Electricity Regulation*, 32 ENVTL. L. 435, 465-68 (2002).

That has not deterred lawmakers from trying to make the industry more environmentally sensitive. In a recent article, my co-panelist Steven Ferrey listed the following techniques:

1. System Benefits Charge/Renewable Trust Fund (a “tax or surcharge mechanism for collecting funds from electric consumers, the proceeds of which could then support a range of [environmentally-friendly] activities”);
2. Renewable resource portfolio requirements;
3. Siting reviews of new generation capacity (to interject an environmental component in siting reviews);
4. “Green” electricity pricing;
5. Promotional ratemaking policies (including, for example, net metering);
6. Emission trading;
7. Emission taxes;
8. “Cleancos” (stand-alone companies promoting the commercialization of environmental technologies); and
9. Efficiency standards.³⁷

Some of these are in effect (renewable portfolio standards)³⁸; Some of these only exist in the realm of the hypothetical (emission taxes).³⁹ This limited progress should surprise no one familiar with Dean Tomain’s observation. There is an outright schism on the vital question of whether environmental mechanisms should be employed at all in a restructuring industry. One’s position depends almost entirely on one’s initial assumptions. The environmental community takes it as a given that promoting renewable resources in restructuring is necessary. Professor Ferrey, for example, devotes considerable thought to assessing the likely effectiveness of these environmental mechanisms.⁴⁰

To free marketers, competition is what matters, and environmental mechanisms are odious to it. Professor Pierce’s critique of them in 1993 was especially deft.⁴¹ He acknowledged the externalities of power generation, but nevertheless concluded that environmental

37. Ferrey, *supra* note 1, at 524 – 540.

38. *See id.* at 646 – 47 (noting that many states have adopted renewable resource portfolio requirements as part of their electricity restructuring and deregulation statutes).

39. *See id.* at 537 – 38 (explaining how an emissions tax could allocate the cost of residual pollution damages from their sources).

40. *See generally id.*

41. BLACK & PIERCE, *supra* note 29.

mechanisms designed to internalize them were unwarranted as a form of governmental intrusion in the market. He claimed other environmental regulation, specifically the CAA's system of air pollution controls, would take care of the negative impacts of power generation.⁴² This might have made sense in 1993 but cannot be considered a definitive proposition today in light of the controversies of the past ten years, given the considerable shortcomings of the current CAA regulation system. If second generation techniques such as cap-and-trade systems found even wider use in the CAA environment, Professor Pierce might have a stronger argument.

III. ENVIRONMENTAL MECHANISMS IN A REGIONAL MARKET

Defenders of environmental mechanisms have to come to grips with a simple and compelling reality: the new ethic in the industry is competition on a regional scale, not regulation. In the new utility industry, cost considerations are paramount. There is no better evidence of this than the impact of the transition to competition on planning and demand-side management ("DSM") programs. If utilities were to compete, there was no reason to saddle them with responsibility for these environmental programs, which would presumably be taken over by new entrants into the market. The predictable result was a dramatic drop in DSM and integrated resource planning programs.⁴³ Between 1993 and 1997, power companies discarded energy efficiency programs as anti-competitive, and investment in them fell by over 50% nationwide.⁴⁴

Acknowledging the ascendancy of competition based on cost, to what extent should environmental incentives be retained and for what reasons? Viewing the situation through the lens of pure competition, these incentives flunk the test of market friendliness. A production tax credit gives a substantial boost to one type of producer (currently, 1.8¢/kWh⁴⁵) that others do not receive. This is so un-market-like that Adam Smith would roll over in his grave. As noted above, Professor Pierce also argues that mechanisms relying on subsidies, unlike taxes on polluters, tilt the playing field without even attempting to remedy

42. *Id.* at 1394 – 97.

43. NAT'L COUNCIL ON ELEC. POLICY, *supra* note 19, at 45.

44. *Id.*

45. Moeller, *supra* note 31, at 90.

the underlying problem: the externalities of power generation.⁴⁶ To an economist, this is inexcusable.

But these arguments presuppose an ideal that does not exist: an ethic of perfect competition. The reality on the ground is not yet and cannot yet be so. Governmental intervention is a major component of the advance toward competition, not its antithesis. And, critically, that intervention already subsidizes one group: incumbent utilities that have successfully argued for recouping their “stranded costs” (costs incurred in a regulated universe that they might not recover in a competitive environment). In my state of Virginia, for example, any competitor—including, of course, a “green” generator—that wishes to use the transmission lines of an incumbent utility will pay a “competitive transition” (or “wires”) charge to that utility.⁴⁷ Of course, that utility does not charge its customers the wires charge. With any new entrant starting out at a competitive disadvantage, there are few of them in the Virginia retail market. If that is not a barrier to entry, I don’t know what is.

Environmental incentives should not be subordinated to a competition ethic until there is true “deregulation,” not “restructuring.” The difference is hardly one of mere semantics. In this hybrid system, there is little hard knowledge about what competition will bring, and lots of lacunae, which force arguments to be made anew in state and federal fora. The ideal of competition is years away. Market design still has a long way to go before we have seamless, robust national electricity markets. Until market monitoring can be done effectively, which is at best debatable, it is hard to argue that open access for all power generators on equal terms is achieved in practice. Transmission asset owners still wield market power, which they can still use to deter generation entrants. That is the barrier to entry we should be discussing; until there is true divestiture of the transmission infrastructure, there will not be true deregulation of the industry. Hence, of course, “restructuring.”

IV. HOW TO JUDGE UNDER INSTITUTIONAL UNCERTAINTY

Restructuring completely changes the nature of the electricity transaction. RTOs operate regional markets designed to provide their

46. BLACK & PIERCE, *supra* note 29, at 1369 – 70.

47. See VA. STAT. ANN. § 56-583 (2004) (describing the “wires charge”).

customers with electricity at the lowest cost.⁴⁸ FERC's Standard Market Design proposal adopted a variant of the "locational marginal pricing" ("LMP") model popularized by Harvard economics professor William Hogan and used by the PJM Interconnection RTO.⁴⁹ An LMP-based system can be extremely sophisticated (for example, it can be split into day-ahead and spot markets), but its core principle is quite simple: the marginal cost of moving electricity through each node on the regional system reflects market conditions at that node.⁵⁰ At any given moment, a renewable plant might not be the least expensive unit to dispatch on the regional system, for any of a variety of reasons. As Professor Ferrey notes, "renewable technologies, because of their unreliability, may be barred from bidding power to a power exchange, . . . [or] may not emerge from a spot power pool system that dispatches generation to operate based on least cost—although many renewable technologies do have low marginal operating costs, if not low capital costs."⁵¹

Where free marketers see opportunity from institutional change, environmentalists see danger.⁵² There are lots of uncertainties about how these new electricity markets will operate. Of course, the shifting sands of jurisdiction have an enormous impact. The long-established distinction between sales at "wholesale" (regulated by the federal government) and "retail" (regulated by the states) has been, of course, the subject of considerable turmoil and controversy, not ended at all by a Supreme Court decision on the matter.⁵³ As I write this article, for example, there is an ongoing debate in Virginia about whether the state can regulate the extent to which an incumbent util-

48. See Hogan, *supra* note 15, at 5 – 7; Ferrey, *supra* note 1, at 634 – 35 ("This entity [the regional system operator] may be quasi-public, in that it has voluntary rules for generating unit dispatch and ramping. These rules can dispatch on a variety of protocols—essentially determined by the system operating rules and the related computer dispatch programs that drive and control the system.").

49. See Hogan, *supra* note 15.

50. *Id.*

51. Ferrey, *supra* note 1, at 635; see also NAT'L COUNCIL ON ELEC. POLICY, *supra* note 19, at 65.

52. See, e.g., Environmental Public Interest Organization Comments on the Joint Petition for Declaratory Order Regarding the Creation of a Northeast Regional Transmission Organization, *FERC Docket No. RT02-3-000*, available at <http://nedri.raabassociates.org/Articles/Final%20Filed%20Envir%20Comments%20on%20NERTO%2011-8-02.doc> (Last visited March 28, 2005) (*hereinafter* NERTO Environmental Comments) (*outlining steps that the proposed NERTO should take to incorporate environmental considerations in decisions*).

53. See, e.g., Tomain, *supra* note 36, at 462 ("[t]he allocation of political authority is an open issue.").

ity can recover the costs it incurs in joining an RTO. Not surprisingly, the vanguard of litigation on the jurisdictional question was occupied in large part by state public utility commissions concerned they would lose traditional regulatory authority if their utilities joined RTOs.⁵⁴ In my home state of Virginia, this led to years of wrangling among the utilities, state regulators, state legislators, and corporate and consumer groups about not only whether the utilities should join RTOs but who was empowered to make those basic decisions.⁵⁵

In the end, RTOs stand largely outside the purview of state public utility commissions, but are related to them in the sense that wholesale transactions eventually lead to retail sales. As they grow, this unique split of authority has led to uncertainty about institutional leadership on many issues relating to the operation of these regional marketplaces. Still, it seems inevitable that the future belongs to RTOs or RTO-like markets, and the loss of regulatory jurisdiction will cut in one direction: states ceding their traditional jurisdiction to the federal government. In the new electricity market, there will be a "larger share of wholesale transactions that will become federally, rather than state, regulated."⁵⁶ The federal government, then, has a larger role to play in making the industry environmentally sensitive. FERC could require RTOs to incorporate environmental values in pricing decisions, but it has not done so.⁵⁷ Nor has Congress, which has been slow to take to the notion of a federal renewable portfolio standard.⁵⁸

54. Eisen, *Regulatory Linearity*, *supra* note 7 (describing as an example the litigation involving the utility American Electric Power and its attempts to join the PJM RTO).

55. In an upcoming article, Professor Pierce blames this sort of tactic for stopping progress toward restructuring. *See supra* text accompanying note 13.

56. Ferrey, *supra* note 1, at 636.

57. *Id.* at 619 ("For renewables, FERC has not shown any inclination to grant a preferential price or rate for power procured from renewable resources.").

58. Early versions of House Bill 6, the omnibus energy bill, would have created a federal renewable portfolio standard, gradually increasing to 20% of power generated from renewables. H.R. 6, 108th Cong. (2003). The RPS was left out of the final bill, which failed to become law in any event. *See* E&E Publ'g, *The 108th Congress Energy Bill*, available at http://www.eenews.net/sr_eb108.htm (last visited Feb. 3, 2005). For a good description of how the RPS wound up on the legislative cutting-room floor, *see* Stephen Polasky, *Electricity Restructuring and the Environment*, in *PAINTING THE WHITE HOUSE GREEN: RATIONALIZING ENVIRONMENTAL POLICY INSIDE THE EXECUTIVE OFFICE OF THE PRESIDENT* 145 - 47 (Randall Lutter & Jason F. Shogren eds., 2004).

V. WHAT SHOULD (AND CAN) STATES DO?

The states, fortunately, have not stood still. What we should be doing, then, is discussing what role states' environmental mechanisms should play in a partially deregulated market, where full competition is unlikely to occur for a while. For years to come we will have the transitional conditions that exist now, with regional marketplaces growing in number and scope and involving new players with unproven track records.

One could say the best response is to do nothing. In this view, if it is in the best interest of the market, environmentally friendly firms will prosper. This ignores the barriers to entry facing firms that would provide electricity generated from renewable resources to regional marketplaces. Moreover, it is not as if one set of players (environmental advocates, free marketers) has an entrenched position in this discussion; Instead, both are scrambling to adjust to and have their concerns addressed through continued governmental regulation in a rapidly changing environment. A real problem, then, is that of making sure environmental concerns do not fall into a lacuna and vanish.

As the quote at the beginning of this article makes clear, generators using renewable resources are generally not price competitive now if the sole focus is on costs.⁵⁹ So the states' actions should reflect a core principle that generators using renewable resources bring a wealth of benefits to the table that cannot be quantified solely by regional protocols for dispatching least-cost resources. States should address this potential failure of the market (the narrow focus on cost as reflected in current bids), and recognize that renewable energy facilities face the true barriers to entry.

Could a state directly influence the regional market? One of the most obvious and visible means to do so is a renewable portfolio standard ("RPS"). In its typical form, State X enacts a law that requires a certain percentage of power sold within the state by its utilities to be generated from renewable resources.⁶⁰ At present, fourteen

59. This leads opponents to attack RPS as costly, without acknowledging the environmental benefits of electricity generated using renewable resources. See, e.g., Heritage Foundation, *The Senate-Passed Energy Bill Will Hurt Consumers*, available at <http://www.heritage.org/Research/EnergyandEnvironment/BG1590.cfm> (last visited March 28, 2005) (criticizing the Senate-passed RPS for increasing electricity costs to consumers).

60. See, e.g., Suedeem Kelly, *NM PRC Issues New Proposal for Renewable Portfolio Standard (RPS)*, available at http://www.modrall.com/articles/article_110.html (2002) (describing the proposed RPS in New Mexico). Suedeem Kelly is an attorney who later became FERC Commissioner, and is also a participant in this Symposium.

states have some form of RPS.⁶¹ Numerous design issues are addressed differently in different states: what the percentage is (and how it is set); which utilities are covered; which renewable resources qualify; and so forth.⁶²

An RPS is a market-friendly mechanism; In Professor Ferrey's words, "there is no government subsidy of any technology or project, [and] the market dictates what renewable technologies and projects are actually successful based on competition"⁶³ An RPS does not tax or subsidize any particular technology (thus avoiding the inefficiency of subsidies described above). It does not force a utility to use any specific technology or, for that matter, to even generate power with renewable resources. In many states, the utility can purchase certificates called "renewable energy certificates" ("RECs") from other generators instead of generating the power itself.⁶⁴ The sale of RECs by renewable suppliers can help make their power competitive on an overall basis with power generated by fossil fuels. The power itself is more expensive, and so selling it into a regional market might be uneconomic, but the separate sale of RECs makes up the difference (at least in theory).

VI. WHAT CAN STATES DO (THE JURISDICTIONAL QUESTION)?

This last point requires us to consider how an RPS overlaps with a regional marketplace. Even though it is a state standard, the RPS "does not subsidize any particular . . . locus,"⁶⁵ so generation can take place anywhere. In fact, a state cannot allow only power generated and sold within the state by in-state utilities to count toward the renewables requirement. If it did so the RPS would clearly run afoul of the dormant commerce clause.⁶⁶ So in many cases, power generated by renewables will come from out-of-state sources. Many utilities sub-

61. The Database of State Incentives for Renewable Energy (DSIRE) maintains a list of state incentives for renewable energy, including renewable portfolio standards. See <http://www.dsireusa.org> (last visited March 28, 2005).

62. NAT'L COUNCIL ON ELEC. POLICY, *supra* note 19, at 47–48.

63. Ferrey, *supra* note 1, at 531.

64. See U.S. Dept. of Energy, *Energy Efficiency and Renewable Energy, Renewable Energy Certificates: Retail Certificate Products, available at* <http://www.eere.energy.gov/greenpower/markets/certificates.shtml?page=1> (last visited March 28, 2005). The European clearinghouse for RECs is the Renewable Energy Certificate System (RECS). See <http://www.recs.org> (last visited March 28, 2005).

65. Ferrey, *supra* note 1, at 531.

66. Dennis, *supra* note 14, at 641–42 (listing the factors courts would use to invalidate this "economic protectionism").

ject to a RPS also belong to an RTO into which they sell power.⁶⁷ Keep in mind that electricity flows continuously throughout the large regional grids like the proverbial water in the swimming pool, so it is generated, flows onto the grid, joins other power, then is transmitted to a retail seller (“load-serving entity” or “LSE,” in utility parlance) at the other end of the transaction.⁶⁸ That is, it flows throughout the region.

Thus, state mandates have to mesh with the regional marketplaces in two senses: legally (fitting the new jurisdictional contours) and operationally (addressing underlying market dynamics while allowing RTOs to integrate the mechanism functionally into their market-making activities). With respect to the jurisdictional question, states retain their traditional right to regulate retail activities within the state, including such matters as distribution companies’ conduct.⁶⁹ But a state cannot “reach back ‘upstream’”⁷⁰ to regulate a wholesale transaction, for example, by controlling an RTO’s pricing policy, even if it believed it needed to do so in the name of environmental protection. As many have shown, there are Constitutional and statutory problems with this.⁷¹

Is the requirement of a percentage of power generated from renewables a decision over which State X has jurisdiction, because it is regulating the operations of a utility doing business in the state? Or is it an impermissible restriction on wholesale transactions, because it is constraining the RTO’s ability to decide which power is sold throughout a region? This is an open question; No court to date has tackled

67. Connecticut’s RPS, for instance, allows utilities to count toward the standard power they purchase from qualifying renewable energy sources “within the jurisdiction of the regional independent system operator,” in this case ISO-New England. See DSIRE, *Connecticut Incentives for Renewable Energy*, available at <http://www.dsireusa.org/library/includes/map2.cfm?CurrentPageID=1&State=CT> (last visited March 28, 2005).

68. This is, of course, a very simplistic description of a very complex relationship. For example, PJM offers a course called “Load Serving Entity 201” that describes the complex relationship between the regional market and the load serving entity. Of particular interest is the lengthy list of “Requirements of an LSE,” which describes the full range of interactions between the LSE and PJM. See *Requirements of an LSE*, available at <http://www.pjm.com/services/courses/downloads/20040726-item3-requirements-of-an-lse.pdf> (last visited March 28, 2005).

69. See, e.g., Ferrey, *supra* note 1, at 637.

70. *Id.* at 637.

71. See, e.g., NAT’L COUNCIL ON ELEC. POLICY, *supra* note 19, at 49; Dennis, *supra* note 14; Ferrey, *supra* note 1; see generally Kirsten H. Engel, *The Dormant Commerce Clause Threat to Market-Based Environmental Regulation: The Case of Electricity Deregulation*, 26 *ECOLOGY L.Q.* 243 (1999).

the intersection of state and federal jurisdiction in the context of a renewable portfolio standard.⁷²

The Federal Power Act, the touchstone of federal power over the industry, defines electric energy transmitted in interstate commerce as energy “transmitted from a State and consumed at any point outside thereof”⁷³ This language “has consistently been found to mean that FERC has jurisdiction when the system is interconnected and capable of transmitting energy across the state boundary, even though the contracting parties are in fact in one state. Similarly, the transmission of power over a utility transmission grid used in interstate commerce is subject to FERC jurisdiction, even when all parties to the transaction are located within the same state.”⁷⁴ Therefore, FERC has jurisdiction over the transmission facilities of an RTO, as they are clearly used in interstate commerce.

However, that does not end the matter. States have not been shut completely out of the jurisdictional mix, and retain their traditional authority over intrastate matters. This allows them to regulate such matters as siting, feasibility determinations, plant operational characteristics, and environmental compliance. In turn, this leads Professor Ferrey to conclude that if an RPS does not limit where the power is generated, it would not pose an impermissible burden on interstate commerce.⁷⁵

VII. DESIGNING A REGIONAL SYSTEM TO ACCOUNT FOR A STATE RPS (OR, PERHAPS, A REGIONAL RPS)

How should a regional market be structured to allow a utility to meet the relevant state RPS?⁷⁶ The operational aspects of this inquiry are complex. It is impossible to “tag” a unit of electricity, so an LSE cannot determine at any given moment whether the electricity it just delivered was generated by a nuclear plant or a wind farm. Nor can the RTO know the environmental attributes of the power it is transmitting about the grid, unless it has some form of accounting. And then there’s the matter of the reckoning: how does the state know at the end of the year that the utility has complied with the RPS?

72. Ferrey, *supra* note 1, at 645.

73. 16 U.S.C. § 824(c) (2000).

74. Steven Ferrey, *Nothing But Net: Renewable Energy and the Environment, Midamerican Legal Fictions, and Supremacy Doctrine*, 14 DUKE ENVTL. L. & POL’Y F. 1, 115 – 16 (2003) (hereinafter Ferrey, *Nothing But Net*).

75. *Id.* at 115 – 16.

76. DSIRE, *supra* note 67.

Tracking the attributes of a generator thus becomes paramount in a regional system that seeks to promote utility compliance with a state RPS.⁷⁷ Some regions have made considerable progress toward establishing a market for the attributes of electricity wholly separate and independent from that for the electricity itself. The ISO-New England RTO uses a Geographic Information System (“GIS”) to track generator information.⁷⁸ PJM Interconnection, the large RTO in the Mid-Atlantic region, has developed a Generator Attribute Tracking System (“GATS”) with a sophisticated design.⁷⁹ In it, each generator would have an account into which certificates would be deposited as electricity was generated. These certificates would contain relevant data about the nature of the generation (e.g., the fuel used). LSEs would also have GATS accounts, and they would obtain certificates from PJM generators, who would have to sell or transfer certificates to them. At the end of the year, if the LSEs did not have certificates that matched their load served, they would be allocated them from a “residual mix” pool of unsold and unused certificates.⁸⁰ Once all certificates had been allocated reports could be generated to determine whether LSEs met the RPS requirements.⁸¹

As PJM acknowledges, there are numerous reasons why this type of system should be implemented on a regional basis, foremost among them, of course, being that the market for electricity is quickly becoming regional.⁸² The PJM GATS might work well in practice, as would a similar system being planned for NYISO.⁸³ The RTO (PJM) generates information, which the LSEs then in turn use to convince their individual state regulators that they meet the RPS (which of course differs from state to state).

77. *NERTO Environmental Comments*, *supra* note 52 (noting that the design of a “super-RTO” proposed for the Northeast should incorporate this type of system).

78. ISO New England, *Generator Information Systems*, available at http://www.iso-ne.com/committees/generator_information_systems (last visited April 4, 2005).

79. See PJM Generator Attributes Tracking Sys. Working Group, *GATS Concept* (March 17, 2004), available at <http://www.pjm.com/committees/working-groups/gats/download/20040401-draft-concept-paper.pdf>.

80. *Id.* at 5–6.

81. *Id.* at 6–7.

82. *Id.* at 1.

83. See *Initial Comments of the New York Independent System Operator* at 7, New York Pub. Serv. Comm’n Case 03-E-0188 (2003), available at http://www.nyiso.com/services/documents/filings/sept_2003/nyiso_intl_cmmnts_rps_9_29_03.pdf (last visited Feb. 28, 2005) (stating that, “The NYISO supports the development of a similar system in New York and is working informally with Market Participants and vendors . . . to attempt to develop the scope of a GATS requirement.”).

A recent technical assistance report on New Jersey's development of an RPS shows how complex the issues in this process can be. Among other focuses of the report were the relationship between the state RPS and the "much larger electricity market" (in this case, PJM).⁸⁴ The report recommended that New Jersey support the PJM GATS program, and considered the following additional issues:

1. What power should count toward the RPS? As noted above, Constitutional problems would arise if a state determined that only in-state power would count. But could a state set *any* limitations on power generated too remotely from the state?⁸⁵ Would it have to credit wind power generated in North Dakota, for example?⁸⁶ Would this issue have to be revisited if, as is the case at present, the regional market continued to expand?
2. If it is desirable that only power from "new" renewable facilities counts toward the RPS, how should that be defined?⁸⁷
3. If other states in the region adopt RPS's, would that lead toward a possible shortage of REC's, and what would be done to address this shortage? Should a state consider altering its RPS in light of the actions of neighboring states that are also part of the regional market?⁸⁸
4. If a shortage of credits persisted, could a utility satisfy its requirement through some sort of alternative mechanism such as a payment into a state's clean energy fund, or would this have the effect of discouraging the market for green power?⁸⁹
5. Should the state have its own accounting system for REC's or should it simply rely on the regional one?⁹⁰

Given that these regional markets are just getting underway in many places, now is the time to discuss this important set of issues. Some have even suggested converting the existing patchwork of state renewable portfolio standards to a smaller number of "regional portfo-

84. NAT'L COUNCIL ON ELEC. POLICY, REG'L ASSISTANCE PROJECT, TECHNICAL ASSISTANCE FOR THE NEW JERSEY RENEWABLE ENERGY TASK FORCE 4 - 5, *available at* <http://www.ncouncil.org/rap.pdf> (2003).

85. *See id.* at 4.

86. *Id.*

87. *Id.* The New Jersey report recommended that power count only from those renewable facilities outside the PJM market that commenced construction on or after January 1, 2003.

88. *Id.* at 5.

89. *Id.*

90. *Id.* at 6.

lio standards.”⁹¹ It would require either voluntary agreement or federal regulation to implement a solution of this sort, so it is not surprising that the discussion to date involves cooperation between states and regional markets. On the other hand, resolving all of these issues on a regional basis may well be the kind of strategy that should be employed to ensure environmental friendliness in an industry that is, as noted above, fast becoming regional.

VIII. CONCLUSION

A former White House staffer and restructuring veteran recently opined that, “[a]t first glance, deregulation issues do not seem to be particularly relevant for environmental policy.”⁹² That’s because on the surface, restructuring seems to be all about economics, and little else. Still, environmental considerations are important, and the real issue is to what extent they are protected (not thought of as an imposition) during this tectonic upheaval in the industry. Thus, I would ask whether we should utilize laws we would describe as environmental, for lack of a better term, to help entrants who will generate power using renewable resources.

Restructuring is nothing short of a complete reordering of the famously staid electric utility industry. And, like other changes it introduces a host of uncertainty. The *raison d’etre* of restructuring is to bring about free market-like competition in the industry. As a counterpoint to the inefficient regulatory regime of the past this may well make sense, although the jury is still out and the promise of restructuring has not yet been fully capitalized upon in practice. But the goal of restructuring is to allow free-wheeling (pardon the pun) competition without guarantees except that it will lower costs for end users of electricity. Modern environmental regulation exists precisely because concerned individuals, legislatures and judges thought it essential that in these sorts of situations competitors should be reined in to control environmental risks. In all such dynamics the quest of responsible environmental advocates is not to deny that a market mechanism can work, but to make sure that the market mechanism captures the full social cost of production in the price of electricity.

91. Regulators in New England have proposed that the entire region develop a collective portfolio standard with tradable credits. See DSIRE, *Maine Incentives for Renewable Energy*, available at http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=ME01R&state=ME&CurrentPageID=1 (last visited March 28, 2005).

92. Polasky, *supra* note 58, at 141.

To categorize all environmental mechanisms as inefficient is to deny the fundamental institutional responsibility of regional players in electricity restructuring to ensure that environmental considerations survive the transition to competition. At the regional level, promising initiatives are already underway to support market-friendly mechanisms such as renewable portfolio standards. Still, there is a long way to go before the states' mandates and the new regional markets are effectively harmonized.