

RENEWABLE PORTFOLIO STANDARD GENERATOR APPLICABILITY REQUIREMENTS: HOW STATES CAN STOP WORRYING AND LEARN TO LOVE THE DORMANT COMMERCE CLAUSE

INTRODUCTION

On November 2, 2004, the people of Colorado voted ballot Amendment 37 into law, effectively establishing a renewable portfolio standard for the state.¹ Amendment 37 requires electric utilities in Colorado to increase renewable energy production.² Although the initiative failed previously in the Colorado legislature three separate times, in November 2004, the people spoke out in favor of renewable energy,³ and Colorado became the first state to enact a renewable portfolio standard (RPS) by popular referendum.⁴ Besides sorting out the details of how much Amendment 37 will cost taxpayers, how it will affect electricity prices, and how to define renewable energy;⁵ Colorado has an even bigger problem: how can the State guarantee that the benefits of renewable electricity production will accrue in-state without violating the dormant Commerce Clause? Colorado, the twenty other states and the District of Columbia with an RPS,⁶ and all other states considering such regulations must

1. David Olinger, *Renewable Energy Amend. 37 Generates Small Lead in Early Tally*, DEN. POST, Nov. 3, 2004, at B-02.

2. *Id.* Amendment 37 requires utilities to increase renewable production from two percent currently to ten percent by 2015. *Id.*

3. David Olinger, *Statewide Ballot Issues Amendment 37—10 Percent by 2015: Energy Initiative Would Force Colorado to Reap Renewables*, DEN. POST, Oct. 17, 2004, at V-11. The Colorado House passed versions of the bill three separate times, but each failed in the Colorado Senate. *Id.*

4. Olinger, *supra* note 1. The City of Columbia, Missouri, passed, by popular vote, an RPS initiative in the form of a municipal ordinance on November 3, 2004. *Mo. City Passes RPS Ballot Initiative*, ELECTRICITY DAILY, Nov. 8, 2004.

5. For an example of the myriad issues that can arise in administering an RPS, see generally Proposed Rules Implementing Renewable Energy Standards 4 CCR 723-3, Decision No. C05-1461 (Co. Pub. Util. Comm'n Oct. 7, 2005) (order adopting rules), [http://www.dora.state.co.us/puc/decisions/2005/follow "C05-1461" hyperlink](http://www.dora.state.co.us/puc/decisions/2005/follow%20C05-1461).

6. ENVTL. PROT. AGENCY, RENEWABLE PORTFOLIO STANDARDS: AN EFFECTIVE POLICY TO SUPPORT CLEAN ENERGY SUPPLY 2 [hereinafter EPA, RPS], available at <http://digbig.com/4rybt>. Of the twenty-one states and District of Columbia, five RPSes were enacted between 2004 and 2006. As of the end of 2003, the Department of Energy listed seventeen. THOMAS PETERSIK, DEP'T OF ENERGY, STATE RENEWABLE ENERGY REQUIREMENTS AND GOALS: STATUS THROUGH 2003, at 2 tbl. 1, <http://www.eia.doe.gov/oiaf/analysispaper/rps/pdf/rps.pdf>. The New York Public Utilities Commission finalized an RPS on September 24, 2004. ORDER REGARDING RETAIL RENEWABLE PORTFOLIO STANDARD, PROCEEDING ON MOTION OF THE COMM'N REGARDING A RETAIL RENEWABLE PORTFOLIO STANDARD, CASE 03-E-0188, (N.Y. Pub. Serv. Comm'n Sept. 24, 2004) [hereinafter NY RPS], available at <http://www.dps.state.ny.us/03e0188.htm> (last visited Mar. 19, 2005). Colorado enacted its RPS in December of 2004. COLO. REV. STAT. § 40-2-124 (Supp. 2004). In April of 2005, Montana

carefully examine current and proposed legislation to ensure survival against a constitutional challenge.

In the past eight years, the future of energy creation, distribution, and regulation has exploded on the political scene as a national and international concern. These concerns range from climate change⁷ to the unending hand-wringing over whether and when the world will run out of oil.⁸ The future of electricity comprises a large part of the overall energy problem because of security concerns,⁹ recent blackouts in California and the Northeast states,¹⁰ the ensuing confusion regarding the possible impacts of deregulation,¹¹ and the fallout from the actions of Enron.¹² While debate

enacted an RPS in the Montana Renewable Power Production and Rural Economic Development Act. MONT. CODE ANN. §§ 69-8-1001, -1004 (2005). In January of 2005, the District of Columbia enacted an RPS. D.C. CODE §§ 34-1431 to -1439 (Supp. 2005). In June of 2005, Vermont enacted an RPS as well. An Act Relating to Renewable Energy, Efficiency, Transmission, and Vermont's Energy Future VT. STAT. ANN. tit. 30, § 8004 (Supp. 2005). On election day of 2006, Washington enacted an RPS. Union of Concerned Scientists, *Renewable Electricity Standards at Work in the States*, <http://digbig.com/4rybw>. Considering the increasing popularity of RPSes, other states will likely enact RPSes in the near future. Indeed, many of the existing RPSes recently increased the required percentage of renewable energy. *Id.*

7. *See, e.g.*, AL GORE, AN INCONVENIENT TRUTH (Lawrence Bender Productions & Participant Productions 2006) (demonstrating that anthropomorphic activity is expediting climate change). Compare INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, THIRD ASSESSMENT REPORT "CLIMATE CHANGE 2001" (2001) (concluding tentatively that anthropomorphic activity is expediting climate change), with INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, FOURTH ASSESSMENT REPORT "CLIMATE CHANGE 2007" (2007) (concluding more definitely that anthropomorphic activity is expediting climate change); Union of Concerned Scientists, *Authoritative Report Confirms Human Activity Driving Global Warming*, Feb. 2, 2007, <http://digbig.com/4rybx> (discussing the IPCC's 2007 Report).

8. *E.g.*, JOHN GEVER ET AL., BEYOND OIL: THE THREAT TO FOOD AND FUEL IN THE COMING DECADES (1986) (arguing that the world is running out of oil); PAUL ROBERTS, THE END OF OIL: ON THE EDGE OF A PERILOUS NEW WORLD (2004) (addressing the possibility and impacts of a global oil shortage).

9. *See generally* MICHAEL T. KLARE, BLOOD AND OIL: THE DANGERS AND CONSEQUENCES OF AMERICA'S GROWING DEPENDENCY ON IMPORTED PETROLEUM (2004) (noting that a large portion of the world's remaining oil supply is located in politically unstable countries).

10. *See generally* STEVEN FERREY, LAW OF INDEPENDENT POWER § 10:3.1 (West 2005) (1989) [hereinafter FERREY, INDEPENDENT POWER] (discussing reliability and the causes of past blackouts); Nicholas W. Fels & Frank R. Lindh, *Lessons from the California "Apocalypse": Jurisdiction over Electric Utilities*, 22 ENERGY L.J. 1 (2001) (explaining why the California blackouts happened and how the practice of "cooperative federalism" can avoid them in the future); Steven Ferrey, *The Eagles of Deregulation: The Role of the Courts in a Restructured Environment*, 32 ENVTL. L. 297 (2002) (analyzing the cause of the California blackouts and the aftermath of deregulation).

11. *See, e.g.*, Ashutosh Bhagwat, *Institutions and Long Term Planning: Lessons from the California Electricity Crisis*, 55 ADMIN. L. REV. 95, 122-24 (2003) (offering solutions to the problems caused by restructuring); Richard D. Cudahy, *Electric Deregulation After California: Down but Not Out*, 54 ADMIN. L. REV. 333, 363 (2002) (arguing that deregulation still has merit); Timothy P. Duane, *Regulations Rationale: Learning from the California Energy Crisis*, 19 YALE J. ON REG. 471, 539-40 (2002) (noting that there is still a need for regulation); Peter Navarro & Michael Shames, *Electricity Deregulation: Lessons Learned from California*, 24 ENERGY L.J. 33, 33 (2003) (examining the wisdom

rages on regarding the causes, effects, and solutions for these problems, even the most philosophically opposed leaders and energy producers agree that the future depends on renewable electricity generation.¹³

States have taken measures into their own hands.¹⁴ In reaction to Congress's previous failure to pass a federal energy bill until 2005, seventeen states enacted laws requiring the increased production or purchase of renewable electricity with an RPS.¹⁵ Despite the funding and incentives provided for renewable energy in the Energy Policy Act of 2005 (EPA 2005),¹⁶ many commentators suggest that one of the major failures of the bill was the omission of a federal RPS.¹⁷ By one group's estimate, such a provision would have tripled the amount of renewable energy available in the United States.¹⁸

An RPS requires all retail utilities in a given state to prove that a set percentage of its total commercially available supply is derived from renewable energy resources.¹⁹ In plain English, a state-enacted RPS

of restructuring); Michael A. Yuffee, *California's Electricity Crisis: How Best to Respond to the "Perfect Storm,"* 22 ENERGY L.J. 65, 66, 84–91 (2001) (proposing a holistic approach to address market flaws created by deregulation).

12. See, e.g., Darren Bush & Carrie Mayne, *In (Reluctant) Defense of Enron: Why Bad Regulation Is to Blame for California's Power Woes (or Why Antitrust Law Fails to Protect Against Market Power When the Market Rules Encourage Its Use)*, 83 OR. L. REV. 207, 213–14 (2004) (arguing that regulation and antitrust laws, rather than antitrust laws alone, are necessary to prevent another Enron-style disaster).

13. See, e.g., *Twenty in Ten: Strengthening America's Energy Security*, available at <http://digbig.com/4ryby> (outlining the plan announced by President Bush in his State of the Union Address on January 23, 2007, as a plan in which renewable energy production will increase five-fold and displace fifteen percent of annual gas production); FRED BOSSELMAN ET AL., ENERGY, ECONOMICS, AND THE ENVIRONMENT 115 (2000) ("Major oil and auto companies and electric utilities all have put significant capital into a wide variety of renewable technologies.").

14. See generally Robert B. McKinstry, *Laboratories for Local Solutions for Global Problems: State, Local and Private Leadership in Developing Strategies to Mitigate the Causes and Effects of Climate Change*, 12 PENN. ST. ENVTL. L. REV. 15 (2004) (discussing state actions to reduce greenhouse gas emissions in light of the U.S. failure to ratify the Kyoto Protocol).

15. PETERSIK, *supra* note 6, at 2 tbl. 1.

16. Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (codified in scattered sections of 42 U.S.C.). The new bill provides \$2.2 billion dollars for the research, development, and commercial support of renewable energy. ICF CONSULTING, 2005 ENERGY BILL: THE IMPACTS ON RENEWABLE ENERGY 1 (2005), available at <http://digbig.com/4ryca>. The spending devoted to renewable energy increases from \$632 million in 2007, to \$743 million in 2008, to \$852 in 2009. *Id.*

17. See, e.g., ICF CONSULTING, *supra* note 16, at 1; Scott A. Zimmerman, *Feds and Fossils: Meaningful State Participation in the Development of Liquefied Natural Gas*, 33 ECOLOGY L.Q. 789, 803 (2006) ("Perhaps EPA 2005 is even more notable for what is absent from the final version. . . . [For example,] the effort to establish a Renewable Portfolio Standard failed by just two votes in the Senate.").

18. ICF CONSULTING, *supra* note 16, at 2.

19. FERREY, INDEPENDENT POWER, *supra* note 10, § 10:96. The amounts required vary widely. See EPA, RPS, *supra* note 6 (listing a low of 1.1% annually to as high as 30% in Maine). For the purposes of this Note, "RPS" refers only to resources portfolio requirements and not renewable trust

requires that retail electric utilities add some renewable electricity to the supply available to customers on an annual basis.²⁰ Thus, an RPS guarantees an annual market for renewable electricity because retail utilities must have it in order to comply.²¹

This Note, however, will discuss how the Supreme Court might examine the criteria that renewable electricity producers must satisfy in order to participate in an RPS-created market—generator applicability requirements. If RPS generator applicability requirements appear to discriminate against out-of-state renewable generators based on location, then the RPS violates the dormant Commerce Clause because the regulation will simultaneously create a market for renewable energy and limit the access that renewable electricity generators have to that market based on location. This Note argues that states must emphasize the accrual of in-state benefits while avoiding any and all location-based limits to preserve the RPS and avoid dormant Commerce Clause challenges.

Part I provides the necessary background principles of renewable technology, the history of federal energy law in relation to renewable technology, the states' choice to enact an RPS in response to the lack of federal incentives, the complex problem of tracing the path of electricity, and the difficulty of measuring the benefits of renewable energy. After the background discussion, Part II traces both the development of the Supreme Court's dormant Commerce Clause jurisprudence and explores how state provisions involving energy and environmental benefits have fared recently under this jurisprudence. Part III synthesizes Parts I and II by examining how the unique nature of RPS benefits may affect the Supreme Court's evaluation of various RPS generator applicability requirements in a dormant Commerce Clause challenge. Part IV explains how the Supreme Court likely will examine existing RPS provisions from different states under a dormant Commerce Clause challenge and illustrates which elements will dictate the outcome of such a challenge.

funds. See *infra* Part I.C.

20. Brent M. Haddad & Paul Jefferiss, *Forging Consensus on National Renewable Policy: The Renewable Portfolio Standard and the National Public Benefit Trust Fund*, *ELECTRICITY J.*, Mar. 1999, at 68, reprinted in BOSSELMAN, *supra* note 13, at 695.

21. See *id.* at 696 (“[T]he RPS therefore creates a second commodity and a second market that supplements the income they receive from selling renewable power itself.”).

I. BACKGROUND

Gaining a full understanding of electricity regulation can take a lifetime. For the purposes of this Note, this section seeks to provide just enough information to understand the major concepts related to renewable electricity regulation. The discussion begins in Part I.A with an explanation of what renewable energy is and why states find it desirable. The discussion continues in Part I.B by tracing the history of federal energy regulation as it pertains to renewable energy. Part I.C explores the concept of an RPS and the alternative design choice in shaping such a regulation. Following that, in Part I.D, this Note briefly discusses the different ways in which the law attempts to trace the flow of electricity. Finally, in Part I.E, this Note discusses the difficulty of ensuring that the benefits of an RPS, which recognize no political boundaries, will accrue within the enacting state.

A. Renewable Electricity

As a general rule, an energy source is renewable when it “can be utilized without any discernable reduction in [its] future availability.”²² Five types of renewable energy have achieved significant levels of viability: wind, solar, biomass, geothermal, and hydroelectric power.²³ Since these

22. BOSSELMAN, *supra* note 13, at 113. For a description of Congress’s inconsistent attempts to define renewable energy, see 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, 573–74 (2004) [hereinafter Ferrey, *Sustainable Energy*].

23. See BOSSELMAN, *supra* note 13, at 113–15 (summarizing available technology); ROBERTS, *supra* note 8, at 188–212 (discussing various renewable-technology options).

One source is solar power. For a discussion of the viability and potential benefits of widespread solar energy production, see HERMANN SCHEER, *THE SOLAR ECONOMY: RENEWABLE ENERGY FOR A SUSTAINABLE GLOBAL FUTURE* (Andrew Ketley trans., Earthscan 2002) (1999).

A second renewable energy source is biomass. Energy is produced by burning “any organic matter which is available on a renewable basis, including agricultural crops and agricultural wastes and residues, wood and wood wastes and residues, animal wastes, municipal wastes, and aquatic plants.” Biomass Energy and Alcohol Fuels Act of 1980, 42 U.S.C. § 8802(2)(A) (2000). The Federal Energy Regulatory Commission (FERC) interpreted biomass to mean “any organic material not derived from fossil fuels.” Small Power Production and Cogeneration Facilities—Environmental Findings, 10 Fed. Energy Reg. Comm’n Rep. ¶ 61,314, at 61,634 (1980); see also Ferrey, *Sustainable Energy*, *supra* note 22, at 574 (defining biomass as “organic plant matter produced by solar energy through photosynthesis”).

A third source is geothermal energy. “Geothermal plants use steam, heat or hot water from the geothermal reservoirs to spin turbine generators which produce electricity.” BOSSELMAN, *supra* note 13, at 50.

Many environmentalists do not include hydroelectric (“hydro”) power when discussing renewable sources because hydro plants significantly impact the environment. These impacts have raised public concern for decades. See, e.g., *Udall v. Fed. Power Comm’n*, 387 U.S. 428, 450 (1967)

sources do not emit significant amounts of pollutants or carbon dioxide to produce electricity, they generally are considered to be more environmentally friendly than the burning of fossil fuels.

Renewable energy costs more to produce than nonrenewable energy, however, because most renewable energy sources provide power only intermittently and, geographically speaking, unevenly. “The sun doesn’t shine reliably everywhere and all the time, nor does the wind always blow”—so renewable energy is not considered “dispatchable.”²⁴ To overcome this problem, most renewable energy-production facilities require backup from facilities using fossil fuels.²⁵ This acts as a disincentive to

(“The need to destroy the river as a waterway, the desirability of its demise, the choices available to satisfy future demands for energy—these are all relevant to a decision . . . but they were largely untouched by the Commission.”); City of Aberdeen, Wash., and City of Tacoma, Wash., Project No. 5842-001, 40 Fed. Energy Reg. Comm’n Rep. ¶ 62, 316, at 63,498–501 (1987) (evaluating the potential impacts on fish, water, dislocation of people, etc., involved in hydro-plant construction). Despite challenges to the classification of hydro as a renewable power under PURPA, see *infra* Part I.B, FERC recommended to Congress that PURPA “does not exclude projects that use new dams, and the term ‘renewable resource’ applies equally to water that is used to produce hydroelectric energy at new dams and existing dams.” Electric Consumers Protection Act, Section 8(d) Study, 45 Fed. Energy Reg. Comm’n Rep. ¶ 61,051, at 61,180 (1988) (order issuing a report to Congress). One of the key disputes that resulted in Congress excluding a federal RPS from EPCAct 2005 stemmed from whether hydroelectricity should be considered as a renewable energy source. See ROBERT L. BAMBERGER & CARL E. BEHRENS, CRS ISSUE BRIEF FOR CONGRESS, NO. IB10143, ENERGY POLICY: COMPREHENSIVE ENERGY LEGISLATION (H.R. 6, S. 10) IN THE 109TH CONGRESS 11–12 (2005) (describing briefly the reasons why the House of Representatives rejected a federal RPS); see also FRED SISSINE, CRS REPORT FOR CONGRESS, NO. RL32860, ENERGY EFFICIENCY AND RENEWABLE ENERGY LEGISLATION IN THE 109TH CONGRESS (2005) (summarizing all bills introduced in the House in the 109th Congress related to renewable energy).

For the purposes of this Note, hydroelectric power constitutes a renewable source. For further discussion on the unique characteristics of hydropower, which some commentators believe should exclude it from eligibility in an RPS, see NANCY RADER & SCOTT HEMPLING, NAT’L ASS’N OF REGULATORY UTIL. COMM’RS, THE RENEWABLES PORTFOLIO STANDARD: A PRACTICAL GUIDE 38–40 (2001), available at <http://www.naruc.org/displayindustrynews.cfm> (follow hyperlink for “NARUC Publications”); then follow “The Renewables Portfolio Standard” hyperlink).

This Note will not discuss certain renewable resources for producing hydrogen because the technologies are not widely available at this time. These include steam water splitting (or steam electrolysis) from solar heat; thermochemical water splitting using bromine or iodine, as well as heat; photoelectrochemical processes either dissolving water soluble metals or placing semiconductor electrodes in photochemical cells; or photosynthetic processes using algae or spinach. For a description of these and other means of producing hydrogen, see U.S. DEP’T OF ENERGY, HYDROGEN PRODUCTION OVERVIEW 1–2 (2004), available at <http://digbig.com/4rycc>.

24. BOSSELMAN, *supra* note 13, at 115.

25. *Id.*

Running a modular energy system on renewable resources will require adapting the system to their intermittent nature. A temporary measure might be to build backup generators using efficient gas turbines, fuel cells, or pumped water storage; new technologies such as compressed air, plastic batteries, flywheels, and other energy storage devices also have parts to play.

Id. (quoting LESTER BROWN ET AL., STATE OF THE WORLD 1999, at 15–16 (1999)).

investment because it increases the already high upfront costs necessary to fund renewable facilities.²⁶

While renewable energy production continues to increase, renewable energy still struggles to compete in the marketplace.²⁷ Retail utilities traditionally discourage renewable energy production as a competitive tactic. They do so in two ways, either by cutting the retail rates they would normally offer a retail customer or by imposing burdensome rates, terms, and conditions for standby and backup power.²⁸ Although EPAct 2005 provides significant funding for renewable energy, it provides even more funding for nonrenewable sources. The question remains: can renewable producers clear a significant profit, or will renewable energy remain only a marginal supplier in the domestic energy picture?

B. Federal Law and Renewable Electricity

Three major policy phases have defined electricity regulation in the United States: the utility consensus, wholesale regulation, and deregulation.²⁹ Beginning a century ago, federal and state governments allowed investor-owned electricity utilities to operate as noncompetitive, wholesale, electricity franchises or monopolies in exchange for their promise to stabilize the price and supply of energy.³⁰ This period is known as the “utility consensus.”³¹

The 1970s ushered in the second phase for wholesale regulation.³² At this time, the development of new technologies in electricity generation slowed, the oil embargoes exposed the Achilles heel of U.S. dependence on foreign oil, and environmentalists forced mainstream Americans to reconsider the use of fossil fuels as the primary energy source.³³ As a response to these events, Congress enacted the Public Utility Regulatory Policy Act of 1978 (PURPA).³⁴ The statute removed monopoly control

26. BOSSELMAN, *supra* note 13, at 115.

27. *See id.* (“[T]here has been a dramatic increase in the extent of private sector investment in research and development of renewable power sources. . . . The possibility of a more sustainable energy economy in the future is beginning to seem less like an environmentalists’ pipe dream.”).

28. FERREY, INDEPENDENT POWER, *supra* note 10, § 4:1.

29. *See generally* RICHARD F. HIRSH, POWER LOSS: THE ORIGINS OF DEREGULATION AND RESTRUCTURING IN THE AMERICAN ELECTRIC UTILITY SYSTEM (1999) (describing the history of federal energy regulation); Kevin S. Golden, Comment, *Senate Bill 1078: The Renewable Portfolio Standard—California Asserts Its Renewable Energy Leadership*, 30 *ECOLOGY L.Q.* 693, 695–96 (2003) (same).

30. HIRSCH, *supra* note 29, at 11.

31. *Id.*

32. *Id.* at 55.

33. *Id.* at 55–65.

34. Public Utility Regulatory Policies Act of 1978, Pub. L. No. 95-617, § 1, 92 Stat. 3117

over generation and encouraged the development of new technologies.³⁵ It required wholesale utilities to buy all the electricity produced by small cogeneration and renewable energy facilities, which it labeled “Qualifying Facilities” (QFs).³⁶ As a mechanism designed to unravel the utilities’ monopoly power over generation, Congress treated QFs as a “new, privileged class of commercial entities . . . exempt from most state and federal laws regulating power generation.”³⁷ PURPA limited the amount a utility could pay for the electricity from a QF to the incremental or “full avoided” cost—the amount of money needed for the utility to produce the same amount of electricity.³⁸ Initially, this provided a windfall to renewable electricity because “more than twenty-five percent of QFs utilize renewable energy sources.”³⁹

Congress initiated the third phase, deregulation, and the development of open wholesale markets with the Energy Policy Act of 1992 (EPAct 1992).⁴⁰ EPAct 1992 provided nonutilities with access to privately owned power grids at “just and reasonable” prices and eliminated utility regulations on “exempt wholesale generators” (EWG).⁴¹ Because neither PURPA nor EPAct 1992 regulated retail power, utilities could now escape federal wholesale regulation under the label of “retail.”⁴² Indeed, “the

(1978) (codified as amended at 16 U.S.C. §§ 2601–2645 (2000)); *see also* Dierdre O’Callaghan & Steve Greenwald, *PURPA from Coast to Coast: America’s Great Electricity Experiment*, 10 NAT. RESOURCES & ENV’T, 17, 17 (1996) (“In response to rising energy costs, fuel shortages, and concerns about dependence on foreign oil, Congress enacted PURPA in 1978.”).

35. HIRSH, *supra* note 29, at 86–88; *see* 16 U.S.C. § 2611 (“The purposes of this chapter are to encourage—(1) conservation of energy supplied by electric utilities; (2) the optimization of the efficiency of use of facilities and resources by electric utilities; and (3) equitable rates to electric consumers.”).

36. HIRSH, *supra* note 29, at 87. Cogeneration systems increase the overall efficiency of a power plant by harnessing the heat given off in the production of electricity instead of emitting it as waste. BOSSELMAN, *supra* note 13, at 115.

37. FERREY, INDEPENDENT POWER, *supra* note 10, § 4:1.

38. 16 U.S.C. § 824a-3(b) (2000). FERC defines avoided costs as “the incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the qualifying facility or qualifying facilities, such utility would generate itself or purchase from another source.” 18 C.F.R. § 292.101(b)(6) (2005); 18 C.F.R. § 292.304 (2005) (promulgating rules for rate variation with regard to full avoided cost). Mississippi challenged the constitutional validity of this definition and lost. *Fed. Energy Reg. Comm’n v. Mississippi*, 456 U.S. 742, 752–53, 758 (1982).

39. Ferrey, *Sustainable Energy*, *supra* note 22, at 521.

40. Energy Policy Act of 1992, Pub L. No. 102-486, 106 Stat. 2776 (1992) (codified as amended in scattered sections of 11, 15, 16, 25, 26, 30, 40, 42, 48, and 49 U.S.C.).

41. Jeffrey D. Watkiss & Douglas W. Smith, *The Energy Policy Act of 1992—A Watershed for Competition in the Wholesale Power Market*, 10 YALE J. ON REG. 447, 449 (1993).

42. *See* BOSSELMAN, *supra* note 13, at 665. “A wholesale transaction is one between two entities who are not the ultimate users of the electricity. A retail sale is a sale directly to an end user.” *Id.* An overly simple way of explaining this is to say that “wholesale” means federally regulated electricity and “retail” means state regulated. *Id.* at 850. State regulation is generally less restrictive.

market ran ahead of the regulators” after the “unshackling [of] wholesale power.”⁴³ Prices of electricity, including the full avoided cost, decreased as a result and the incentive provided to renewable QFs suddenly evaporated.⁴⁴

Prior to 2005, the federal government repeatedly failed to pass a national renewable energy requirement to counterbalance the negative effects of EPAct 1992 on renewable energy-production costs. The Clinton administration proposed a bill requiring that, by 2010, 7.5% of all electricity would come from renewable sources.⁴⁵ This bill did not survive Congress. In 2002, the Senate added a federal RPS to a bill that the House had already passed.⁴⁶ This provision died in committee. Finally, the Bush administration proposed an energy bill with renewable requirements, which the House passed in November 2003.⁴⁷ The Senate not only eliminated the amendments establishing a federal renewable requirement but also failed to enact this bill in any form.⁴⁸

In August of 2005, Congress passed,⁴⁹ and the President signed into

Bosselman illustrates the difference between wholesale and retail as follows:

FERC’s jurisdiction extends to wholesale sales only. It can order the owner of an electric transmission system to transport (“wheeler”) power from a competitor to another utility such as a municipal or coop who will resell it, but it has no jurisdiction to order wheeling directly to an end user. Thus, for example, if a large user such as Widgets Co. thought it could get cheaper power by buying it from the New York Power Authority and having it wheeled by Long Island Lighting, FERC would have no authority to direct Long Island Lighting to provide the service. Only the New York Public Service Commission would have jurisdiction over such a sale because it is a sale at retail.

Id. For the purposes of this Note, the transporter, or “wheeler” is the most important entity because it arranges the movement of renewable electricity between the renewable producer and the end user.

43. Ferrey, *Sustainable Energy*, *supra* note 22, at 523.

44. *Id.* “The market will squeeze all costs down, eliminating certain environmental and renewable resources, [which trade above the market clearing power price,] unless otherwise protected by government policy.” FERREY, INDEPENDENT POWER, *supra* note 10, § 10:93. “In the mid-1990s, newly established avoided cost prices were made of the grapes of wrath: today’s new QF prices, in many instances, are less than 25 percent of what they were a few years before. These reflect a new set of fuel and capital equipment prices.” *Id.* § 10:19.

For a discussion of whether projects already receiving or contracted to receive benefits from PURPA and other statutes should benefit under a state-enacted RPS regime, see RADER & HEMPLING, *supra* note 23, at 23–32.

45. H.R. 1828, 106th Cong. § 611 (1999).

46. S. 1766, 107th Cong. § 265 (2001); H.R. 4, 107th Cong. (2001). The differences between the bills probably killed the RPS provision, but they also stirred some congressional debate on the subject. Ben DiPietro, *Congress Debates Renewable Portfolio Standards, Credits*, PAC. BUS. NEWS, Aug. 2, 2002, available at <http://digbig.com/4rycd>.

47. 149 CONG. REC. H3309 (daily ed. Apr. 11, 2003).

48. H.R. 6, 108th Cong. (2003); 149 CONG. REC. S15,326–35 (daily ed. Nov. 21, 2003).

49. The votes are summarized in SHIRLEY NEFF, REVIEW OF THE ENERGY POLICY ACT OF 2005, at 9–10 (2005), <http://digbig.com/4rycf> (follow “More” hyperlink under “Highlights of the Energy Bill-August 2005”). The complete House vote (275 to 156) is available at <http://digbig.com/4rycg>. *Id.*

law, the first federal energy bill in thirteen years and the first real response to the hurdles placed in front of renewable energy developers as a result of EAct 1992.⁵⁰ EAct 2005 provides significant funds for the research, development, and general promotion of renewable energy,⁵¹ including an escalating requirement that 7.5% of all energy used by the federal government be derived from renewable resources by 2013.⁵² Although only time will tell how effective EAct 2005 will be in remedying the nation's energy problems, numerous commentators believe that it does not go far enough to increase efficiency or to establish a renewable energy market.⁵³ Despite the increased funding for renewable energy, one commentator noted that "the bill does virtually nothing to reduce U.S. oil use."⁵⁴

One of the major criticisms of the bill is that it does not contain a federal RPS.⁵⁵ Considering that a federal RPS made it through the Senate

at 9.

50. Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594. *See generally* ALAMO AREA COUNCIL OF GOV'TS, ENERGY POLICY ACT OF 2005, <http://digbig.com/4rych> (last visited Feb. 11, 2006) (summarizing the key provisions of the EAct of 2005); STEVEN NADEL, AMERICAN COUNCIL FOR AN ENERGY-EFFICIENT ECONOMY, THE FEDERAL ENERGY POLICY ACT OF 2005 AND ITS IMPLICATIONS FOR ENERGY EFFICIENCY PROGRAM EFFORTS 14 (2005), *available at* <http://digbig.com/4sbaw> (highlighting the weakness of the efficiency measures and the weakening of "the existing CAFE situation by extending the 'dual-fuel loophole' that gives manufacturers CAFE credit for making vehicles than [sic] can burn an alcohol fuel, even if the vehicle never uses such fuel"); NEFF, *supra* note 49, at 3 (noting Congress's decision to extend Daylight Savings Time by two months); LAWRENCE J. RISMAN, GLOBAL ENERGY DECISIONS, ENERGY POLICY ACT OF 2005: WHO IS LEFT BEHIND? (2005), *available at* <http://digbig.com/4sbax> (summarizing the provisions, which include not only the repeal of the Public Utility Holding Company Act (PUCHA) but also renewable energy provisions such as new and extended Production Tax Credits (PTC), Clean Renewable Energy Bonds (CREBS), and hydropower relicensing).

51. The new bill provides \$2.2 billion for the research, development, and commercial support of renewable energy. ICF CONSULTING, *supra* note 16, at 1.

52. 42 U.S.C.S. § 15852(a)(1)–(3) (2005). Some commentators contend that this provision in particular will have a dramatic effect. *See, e.g.*, NEFF, *supra* note 49, at 2 ("A federal purchase requirement should be a catalyst for the federal government to establish a standardized credit trading regime to facilitate a national renewable energy market."); RISMAN, *supra* note 50, at 7 ("The federal renewable purchase mandate is likely to promote establishing a national renewable energy credit market.").

53. *E.g.*, NADEL, *supra* note 50, at 17 ("[T]he United States will need to do much more to promote energy efficiency than the items included in the new 2005 energy bill."); Editorial, *An Inefficient Energy Policy*, S.F. CHRON., July 28, 2005, at B8 (stating that the Energy bill is notable for not ending the U.S. dependence on foreign oil); *Energy Deficient*, WASH. POST, July 28, 2005, at A24 (noting that EAct 2005 "in effect preserves the status quo"); Editorial, *Energy Shortage*, N.Y. TIMES, July 28, 2005, at A24 ("The bill . . . does not take bold steps necessary to reduce the nation's dependence on foreign oil, and it also fails to address the looming problem of global warming.").

54. NADEL, *supra* note 50, at 14.

55. *See* ALAMO AREA COUNCIL OF GOV'TS, *supra* note 50, at 9 ("Much of the criticism directed at Title II focuses on . . . [the] failure to include a [federal] Renewable Portfolio Standard (RPS) policy in the bill. . . . Opponents [of the bill] are concerned the absence of a national RPS policy

and into the Conference Committee, the history of the bill is worth describing. In March of 2005, the House of the 109th Congress passed an energy bill⁵⁶ that did not contain a federal RPS for numerous reasons.⁵⁷ Chief among them were the lack of availability of renewable resources in southeastern states and whether to include hydroelectric power as a renewable resource.⁵⁸ The Senate introduced an energy bill of its own in June of 2005, which differed in several respect from the House bill.⁵⁹ For example, unlike the House bill, the Senate bill had an RPS, and, unlike the House bill, the Senate bill did not grant methyl tertiary-butyl ether (MTBE) producers immunity from tort liability.⁶⁰ The bill went to a joint Conference Committee for resolution of its differences. Among the provisions that did not survive the Conference Committee was a federal RPS.

C. The States' Response: Renewable Portfolio Standards⁶¹

In light of the pre-2005 state of federal energy regulation, many states deregulated their energy markets,⁶² and twenty states and the District of

demonstrates a lack of progress toward greater renewable energy use.”); Zimmerman, *supra* note 17, at 803 (“Perhaps EAct [2005] is even more notable for what is absent from the final version. . . . [For example,] the effort to establish a Renewable Portfolio Standard failed by just two votes in the Senate.”). *But see* ALAMO AREA COUNCIL OF GOV'TS, *supra* note 50, at 9 (“In contrast to those concerned with the lack of a national RPS policy, proponents of the bill as it currently reads say an RPS would raise electricity costs to consumers, be unfair to regions that lack viable renewable resources[,] and fail to diversify the country’s fuel needs.”). The Bush administration also opposed a federal RPS, believing “these standards are best left to the States. A national RPS could raise consumer costs, especially in areas where these resources are less abundant and harder to cultivate or distribute.” OFFICE OF MGMT. & BUDGET, EXECUTIVE OFFICE OF THE PRESIDENT, STATEMENT OF ADMINISTRATION POLICY (2003), available at <http://digbig.com/4rycj>.

56. H.R. 6, 109th Cong. (2005).

57. “Although Rep. Tom Udall of New Mexico introduced an amendment to H.R. 6 Title II that would have required electric utilities to generate 15% of their energy from renewable sources by 2022, the amendment was never forwarded to the full House.” ALAMO AREA COUNCIL OF GOV'TS, *supra* note 50, at 9 (citing Statement from Rep. Tom Udall (NM) to Speaker of the House (Apr. 21, 2005)), available at <http://www.tomudall.house.gov> (follow “Issues” hyperlink; then follow “Energy” hyperlink; then follow “Floor Statement on the Energy Policy Act of 2005”).

58. BAMBERGER & BEHRENS, *supra* note 23; SISSINE, *supra* note 23.

59. S. 10, 109th Cong. (2005).

60. Compare H.R. 6, with S.10.

61. For a more technical and expert discussion of the relevant topics in both Part I.C and I.D, see generally CLEAN ENERGY STATES ALLIANCE ET AL., NORTHEAST RPS COMPLIANCE MARKETS: AN EXAMINATION OF OPPORTUNITIES TO ADVANCE REC TRADING (2005), available at <http://digbig.com/4ryck>.

62. Ferrey, *Sustainable Energy*, *supra* note 22, at 508, 645 n.739 (noting that state deregulation includes every large state in terms of population except Florida and listing the states and the legislation enabling deregulation in each state).

Columbia adopted RPSes.⁶³ A state enacts an RPS to increase the amount of renewable energy produced within the state and thereby improve the state's environment.⁶⁴ In effect, RPSes guarantee that money will flow to renewable energy producers either directly or indirectly. The two most prominent types are renewable trust funds, which subsidize in-state renewable production via a tax, and renewable-resource-portfolio requirements.⁶⁵ This Note examines only the latter of the state-enacted RPSes.

A resource-portfolio-requirement-type RPS demands that a designated percentage of the electricity bought or sold by retail utilities be derived from renewable resources.⁶⁶ In essence, these statutes mandate that renewable energy comprise at least a fraction of a utility's annual energy supply sold to in-state customers.⁶⁷ Faced with such statutes, utilities have two options: either produce renewable energy or purchase it from a renewable energy producer. Considering the capital costs associated with renewable energy projects, most utilities prefer to purchase renewable energy. Purchasing electricity typically requires, however, that utilities connect, or interconnect, with renewable generators at significant cost.

63. See *supra* note 6.

64. See RADER & HEMPLING, *supra* note 23, at 2 (stating that the goal of an RPS for policy makers is "to advance renewable energy resources in the most efficient way possible").

65. For a more in-depth discussion of all the different types of RPS mechanisms, see Ferrey, *Sustainable Energy*, *supra* note 22, at 522–39. Renewable trust funds operate by imposing a charge on all electricity sellers, and then pooling those charges into a fund that subsidizes in-state renewable energy production. *Id.* at 523–29. Ferrey discusses the potential for these tax mechanisms to violate the dormant Commerce Clause. *Id.* at 590–610 (relying heavily on the Supreme Court's decision in *W. Lynn Creamery, Inc. v. Healy*, 512 U.S. 186 (1994)).

Similar to RPSes, state-enacted, greenhouse gas-reduction schemes may also violate the dormant Commerce Clause and other provisions of the Constitution. See generally Yvonne Gross, Note, *Kyoto, Congress, or Bust: The Constitutional Invalidity of State CO2 Cap-And-Trade Programs*, 28 T. JEFFERSON L. REV. 205 (2005).

For an analysis of the effectiveness of state renewable funds, see MARK BOLINGER ET AL., LAWRENCE BERKELEY NAT'L LAB., *THE IMPACT OF STATE CLEAN ENERGY FUND SUPPORT FOR UTILITY-SCALE RENEWABLE ENERGY PROJECTS* (2004), available at <http://digbig.com/4rycm>.

66. FERREY, INDEPENDENT POWER, *supra* note 10, § 10:96.

67. RADER & HEMPLING, *supra* note 23, at 1–2. Under an RPS, states may alternatively require that a designated percentage of energy come from fossil-fuel-efficient generation or DSM energy. FERREY, INDEPENDENT POWER, *supra* note 10, § 10:96. Some commentators differentiate between a renewable portfolio standard-percentage requirement and a state mandate for a certain increase in the volume of renewable energy sold within a state. *E.g.*, PETERSIK, *supra* note 6, at 1–2 (distinguishing between various renewable energy requirements). This Note will treat these equally in order to focus on RPS-eligibility requirements for renewable producers.

1. Renewable Energy Credits (RECs)

Trading schemes for “portfolio obligations” allow utilities to purchase renewable electricity without the high costs of production, interconnection, and transmission by creating renewable energy credits (RECs).⁶⁸ An REC is a certificate that “specif[ies] when, where, and how much renewable electricity [a facility] ha[s] generated, and what type of renewable resource was used.”⁶⁹ The state (or program administrator) creates RECs and distributes them to those companies that produce renewable electricity.⁷⁰ “Instead of having to generate or buy renewable energy, retail [electricity] sellers could purchase RECs from renewable energy producers and submit them once each year to the [state] program administrator in amounts equal to the required percentage of their total electricity sales.”⁷¹ In theory, “a generator would have two products: generic power and RECs. The generator can sell each product separately.”⁷² Trading schemes effectively create an additional market for the clean attributes of renewable resources, rather than just the electricity, which is driven by the established percentage of the portfolio requirement.⁷³

Much like the concept underlying sulfur dioxide-emissions trading in the Clean Air Act, RECs allow those companies that can most effectively develop renewable energy to sell RECs to companies that are less effective in this area.⁷⁴ In theory, these schemes “provide a market-based

68. FERREY, INDEPENDENT POWER, *supra* note 10, § 10:96 n.9 (“The trading schemes would eliminate the need for every electricity supplier or buyer to develop renewable energy resources, or every distribution company to acquire DSM, as long as the portfolio requirement is met in the aggregate in a state or region.”).

69. Haddad & Jefferiss, *supra* note 20, at 696.

70. *Id.*

71. *Id.*

72. RADER & HEMPLING, *supra* note 23, at 55.

73. FERREY, INDEPENDENT POWER, *supra* note 10, § 10:96.

74. See Haddad & Jefferiss, *supra* note 20, at 695–96 (comparing REC trading schemes to the sulfur dioxide-allowance trading system set forth by the EPA in the Clean Air Act Amendments). The Clean Air Act Amendments established Title IV—Acid Deposition Control. Clean Air Act Amendment of 1990, §§ 401–416, 42 U.S.C. §§ 7651–7651o (2000). Title IV created emission permits for sulfur dioxide and distributed them to polluters. *Id.* tit. IV. By maintaining a maximum total ceiling for emissions, the total amount decreases, but individual polluters might not necessarily pollute less in a given year, depending on the market availability of the permits and the needs of the specific polluter.

Scholars have debated the relative success of this program. *E.g.*, Jeanne M. Dennis, *Smoke for Sale: Paradoxes and Problems of the Emissions Trading Program of the Clean Air Act Amendments of 1990*, 40 UCLA L. REV. 1101 (1993); Alexander F. Skirpan, *Plus Ça Change, Plus C'est La Même Chose: 1990 Amendments to the Clean Air Act and Their Impact on Utility Regulation*, 55 U. PITT. L. REV. 171 (1993).

The same disadvantages associated with emissions trading schemes apply to REC trading systems: political, scientific, and timing issues required to determine the appropriate target levels;

mechanism to meet portfolio obligations of an entire region on a least-cost basis.”⁷⁵ Potentially, as the market adapts to the REC-based RPS, both technologically and strategically, the state can increase utilities’ total renewable energy obligations to maintain and increase the demand for renewable energy.⁷⁶ RECs could even operate in both wholesale and retail markets, guaranteeing a significant decrease in the amount of pollutants power plants emit.⁷⁷ In a purely theoretical sense, REC trading systems satisfy government’s desire to incentivize renewable production and industry’s desire to let competitive market forces operate with little interruption.⁷⁸

2. “Bundled”

Not all RPSes have REC trading schemes. Many RPSes depend on systems where retailers buy and sell electricity in a manner that prohibits the easy separation of the environmental attributes and the electricity. For these RPSes, the environmental attributes of renewable electricity and the electricity itself are “bundled” together as a single product in a single transaction.⁷⁹ A renewable electricity generator would have to physically interconnect with the state or regional electricity system to sell its product to a retailer and satisfy the RPS requirement.⁸⁰ This requires proximity and capital.⁸¹ Consequently, a state’s choice to implement an REC trading scheme in its RPS will affect the ease with which renewable electricity generators can access the market created by an RPS.

difficulties in monitoring; and deciding whether requirements attach to the total capacity of electricity or the total amount generated. FERREY, INDEPENDENT POWER, *supra* note 10, § 10:96.

75. FERREY, INDEPENDENT POWER, *supra* note 10, § 10:96.

76. *Id.*

77. *Id.*

78. See RADER & HEMPLING, *supra* note 23, at 59–71 (comparing the process of verifying RPS compliance via RECs with other means). Many RPS schemes have yet to have more than a negligible impact on renewable energy production. PETERSIK, *supra* note 6, at 6 tbl.5.

79. Cf. FERREY, INDEPENDENT POWER, *supra* note 10, § 10:98 (describing the difference between certificates sales and bilateral contract sales in a green marketing scheme).

80. See RADER & HEMPLING, *supra* note 23, app.A, at 2 (discussing the metering requirement of the Texas RPS).

81. See *id.* (discussing the obstacles faced by renewable producers in Oklahoma because the Texas RPS requires interconnection); see also *infra* Part IV.B.1 (same).

D. The Complicated Task of Tracing the Path of Retail Electricity: Power Pools⁸² and Bilateral Contracts

To understand how the Supreme Court might evaluate a dormant Commerce Clause challenge to an RPS, one must first understand how retail electricity operates in a physical and legal sense in a deregulated world. Two basic methods exist for the retail movement of electricity: the “power pool” arrangement and the bilateral contract. In the power pool arrangement, various electricity providers enter into short-term contracts to contribute electrons to one central “pool.”⁸³ An independent system operator (ISO) coordinates “power transmission decisions and helps to ensure reliability and open access” by ensuring that the supply of electricity fluctuates consistently with demand.⁸⁴ The advantage of power pools is that both markets and regulators constantly monitor membership, price, and the effectuation of regulators’ goals.⁸⁵ They also encourage reliable system operation, short-term efficiencies, and one price for the entire market.⁸⁶ However, the disadvantage of power pools is that there is no way to know where the electricity from a given retail seller will arrive once it is delivered into the power pool.⁸⁷ Consequently, in the power pool model, an electron may follow a different path than the legal-contract path suggests.⁸⁸

In contrast, a strict bilateral contract leaves no question of where an electron will arrive and be consumed. A bilateral contract is a “direct contract between a power producer and user or broker outside of a centralized power pool or POOLCO.”⁸⁹ While it lacks many of the advantages of a power pool, the model stresses “competition, multiple

82. For the purposes of this Note, the terms “power pool,” “independent system operator” (ISO), and “regional transmission organization” (RTO) will all be treated synonymously. Although these entities differ in significant ways, all three illustrate the concept of a regional power system where states agree to share electricity capacity and flow together in a regional mini-grid. See BOSSELMAN, *supra* note 13, at 767–76 (discussing all three entities interchangeably).

83. See FERREY, INDEPENDENT POWER, *supra* note 10, § 3:9 (“Generators bid for the right to supply bulk electricity at wholesale through a process specifying a price and quantity. The offers are aggregated and a system-wide price is established. All offers to supply power below this price are then accepted by the pool.”).

84. BOSSELMAN, *supra* note 13, at 708.

85. *Id.* at 708–09.

86. Gunnar E. Jorgenson & Frank A. Felder, *New England Power Pool: A Bridge to Competition*, 133 No. 13 PUB. UTIL. FORT. 47, 47 (1995).

87. See RADER & HEMPLING, *supra* note 23, at 34 (“While the customer can *contract to pay for* electricity from a specific generator, that generator’s output will flow into the grid and commingle with the output of all other generators in the grid. The path of this commingled flow to any specific customer is determined by physical laws and their application to the physical characteristics of the grid, not by the contractual arrangements.”).

88. *Id.*

89. FERREY, INDEPENDENT POWER, *supra* note 10, app. B, at 1.

dispatches, and customer choice.”⁹⁰ Since the bilateral contract model lacks a central exchange market, electricity purchasers can negotiate individually with sellers to enter into bilateral contracts.⁹¹ Because bilateral contracts between a producer and consumer provide a paper trail, or contract path, from the point of origin to the point of consumption, the model leaves little doubt as to where an electron will end up.

Hybrid markets, such as the New England Power Pool (NEPOOL), further complicate the difficulty of tracking both the contract path and electron path of electricity.⁹² All electric current flows across state lines and over grids, regardless of whether it derives from a renewable or nonrenewable source.⁹³ In NEPOOL, retailers deliver electricity into the power pool based on a bilateral contract with a regional ISO, rather than the individual consumer, whereupon the path of electricity consumption becomes impossible to trace within the states that comprise the regional ISO.⁹⁴ In essence, a hybrid removes the advantage of traceability offered by a bilateral contract with a consumer and replaces it with the uncertainty of power pool electron flow. When a state’s RPS enumerates the in-state consumption of renewable energy as a putative local benefit, regulators seem to presuppose that they can know in which state the renewable electricity will be consumed; for most regional grids, however, they cannot.⁹⁵ This will complicate the Supreme Court’s inquiry into whether a state can show that an RPS is achieving the local benefits that the state enumerated in the statute.

90. Jorgenson & Felder, *supra* note 86.

91. Nan Zhang, *Moving Towards a Competitive Electricity Market? The Dilemma of Project Finance in the Wake of the Asian Financial Crisis*, 9 MINN. J. GLOBAL TRADE 715, 728 (2000).

92. *Cf.* Jorgenson & Felder, *supra* note 86 (“NEPOOL . . . already meets the short-run objective of minimizing the fuel cost of producing electricity while maintaining a reliable regional system and allowing contract flexibility.”); *see also* BOSSELMAN, *supra* note 13, at 774–76 (discussing NEPOOL and other regional grid systems such as PJM Interconnection, New York ISO, and Electric Reliability Council of Texas (ERCOT)).

93. RADER & HEMPLING, *supra* note 23, at 34.

94. *See id.* (explaining how electricity is impossible to trace after entering a grid).

95. *Id.* The complexities seem to multiply even as one articulates them:

How should a regional market be structured to allow a utility to meet the relevant state RPS? . . . It is impossible to “tag” a unit of electricity, so a[] [retail seller] 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 reckoning: how does the state know at the end of the year that the utility has complied with the RPS?

Joel B. Eisen, *The Environmental Responsibility of the Regionalizing Electric Utility Industry*, 15 DUKE ENVTL. L. & POL’Y F. 295, 310 (2005).

E. The Difficulty of Proving the In-State Accrual of RPS Benefits

Enacting states associate many benefits with RPS trading systems, but most of these benefits do not recognize state boundaries.⁹⁶ RPS-related advantages include environmental benefits from cleaner energy production, resource diversity due to less dependency on fossil fuels, technology advancement, and economic benefits such as jobs.⁹⁷ Electricity, however, will follow the path of least resistance in most grids, not invisible state boundaries.⁹⁸ Consequently, the environmental benefits associated with a state's RPS will "depend on the type and location of the resources that are displaced within the market serving the state."⁹⁹ This presents great difficulty—a state must attempt to calculate which resources will be displaced by an RPS and whether that displacement will positively affect the state's environment.¹⁰⁰ Because most states are served by a regional electricity market, the benefits to resource diversity from renewable electricity development will also tend not to observe state lines.¹⁰¹ The same is true for technology advancement—no matter where renewable technology innovation occurs in the country as a result of a state's RPS requirements, it will benefit the enacting state.¹⁰² Only economic development such as jobs created by the expansion of renewable energy production would definitely occur in-state.¹⁰³ Thus, without some language limiting the location of these benefits, states will fail to achieve the articulated goals of an RPS—ensuring that the environmental and other benefits accrue in-state. In essence, legislators will no longer be regulating for the sake of just the enacting states but also for the benefit of the region.

96. RADER & HEMPLING, *supra* note 23, at 33.

97. *Id.* at 34–35. These benefits include: promoting a competitive renewable energy market; increasing efficiency; reducing retailers' compliance risks and compliance costs; reducing policy costs overall; providing cost transparency; providing a low-cost way to verify compliance; making it easier for owners of small, renewable energy systems to participate in the market; and providing a ready means for the public to support renewable energy production. *Id.* at 56–57.

98. *See id.* at 34 ("A generator's output is more likely to flow to the load closest to it, which will not necessarily be a load within the enacting state.").

99. *Id.* at 34.

100. *Id.* Rader and Hempling offer the example of a New England state's airshed improving just as much from the building of an in-state renewable plant as it would from the construction of a renewable plant in a neighboring state. *Id.* The New England state's new, in-state renewable plant displaces emissions from an Ohio coal plant from which the New England state would ordinarily buy electricity, thereby improving the New England state's airshed. *Id.*

101. *Id.* at 34–35.

102. *Id.* at 35.

103. *Id.* Ironically, of all the benefits listed, in-state economic development would draw the most suspicion from the Supreme Court under a dormant Commerce Clause challenge because it would require a state to create renewable energy-production jobs for producers located in-state at the expense of producers located out-of-state. This amounts to blatant economic protectionism.

These regulations then become national rather than local in nature.

The obvious method to guarantee that benefits accrue in-state is to limit the location of renewable generators eligible to participate in the RPS-created market either to the state or immediate regional area. Such a limit on interstate commerce, however, may awaken the Commerce Clause as it lies dormant.

II. THE SUPREME COURT'S TREATMENT OF ENERGY AND ENVIRONMENT UNDER THE DORMANT COMMERCE CLAUSE

In order to provide a focused analysis of how the Supreme Court might proceed in a dormant Commerce Clause challenge to a state-enacted RPS, this Note will discuss not just the Supreme Court's dormant Commerce Clause doctrine in the abstract, but also how the Court has treated regulation of energy and the environment under the doctrine. This discussion begins with a brief overview of the Court's conceptual development of the dormant Commerce Clause and its early attempts to formulate a test for detecting when a regulation violates the doctrine. The discussion continues in Part II.A.2 with an examination of *Pike v. Bruce Church, Inc.*, and the development of the two main types of scrutiny—the *Pike* balancing test for evenhanded regulations and per se invalidity for when a statute discriminates on its face. An examination of the Court's treatment of energy and environmental state regulations under dormant Commerce Clause challenge concludes this discussion.

A. *The Historical Development of the Supreme Court's Dormant Commerce Clause Jurisprudence*

The dormant Commerce Clause doctrine grew out of the express powers granted to Congress in the Commerce Clause of the Constitution. The Constitution grants Congress the power to “regulate Commerce among . . . the several States.”¹⁰⁴ Although the Constitution does not specifically speak of a dormant power,¹⁰⁵ the Supreme Court recognized

104. U.S. CONST. art. I, § 8, cl. 3.

105. At least two members of the current Supreme Court, Justice Scalia and Justice Thomas, partially object to the dormant Commerce Clause as a constitutional principle because it “does not appear in the Constitution.” *Okla. Tax Comm'n v. Jefferson Lines, Inc.*, 514 U.S. 175, 200 (1995) (Scalia, J., concurring); see also *Camps Newfound/Owatonna, Inc. v. Town of Harrison*, 520 U.S. 564, 609 n.1 (1997) (Thomas, J., dissenting) (“There is, quite frankly, nothing ‘dormant’ about our jurisprudence in this area.”). For an overview of the judicial and academic arguments for and against dormant Commerce Clause power, see Jim Chen, *A Vision Softly Creeping: Congressional Acquiescence and the Dormant Commerce Clause*, 88 MINN. L. REV. 1764 (2004).

that allowing the states to “guard them[selves] against competition . . . [would reopen the door] to rivalries and reprisals that were meant to be averted by subjecting commerce between the states to the power of the nation.”¹⁰⁶ Thus, the Court has established federal dormant Commerce Clause authority based on the theory that Congress implicitly preempts the entire field of interstate commerce through its silence.¹⁰⁷ Consistent with this preemption power, Congress may permit a state to regulate commerce.¹⁰⁸ In most modern instances, however, the “negative” aspect of this power limits a state’s ability to “unjustifiably . . . discriminate against or burden the interstate flow of articles of commerce.”¹⁰⁹ But the Court struggled for many years to formulate a test for determining whether a state regulation violated the dormant Commerce Clause.

1. *Pike*¹¹⁰ and Its Predecessors

For more than a century, the Court experimented with a “variety of tests in an attempt to describe the difference between those regulations that the [dormant] Commerce Clause permits and those regulations that it

106. *Baldwin v. G.A.F. Seelig, Inc.*, 294 U.S. 511, 522 (1935); *see also* *Or. Waste Sys., Inc., v. Dep’t of Env’tl. Quality*, 511 U.S. 93, 98 (1994) (“[E]conomic Balkanization . . . plagued relations among the Colonies and later among the States under the Articles of Confederation.”) (quoting *Hughes v. Oklahoma*, 441 U.S. 322, 325–26 (1979)); *Boston Stock Exch. v. State Tax Comm’n*, 429 U.S. 318, 328 (1977) (“[T]he very purpose of the Commerce Clause was to create an area of free trade among the several States.”) (quoting *McLeod v. J.E. Dilworth Co.*, 322 U.S. 327, 330 (1944)). “This ‘negative’ aspect of the Commerce Clause prohibits economic protectionism—that is, regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors.” *New Energy Co. of Ind. v. Limbach*, 486 U.S. 269, 273–74 (1988) (citing *Bacchus Imports, Ltd., v. Dias*, 468 U.S. 263, 270–73 (1984); *H.P. Hood & Sons, Inc. v. Du Mond*, 336 U.S. 525, 532–33 (1949); *Guy v. Baltimore*, 100 U.S. 434, 443 (1880)).

107. *See, e.g.*, *Tyler Pipe Indus., Inc. v. Wash. State Dep’t of Revenue*, 483 U.S. 232, 263 n.4 (1987) (Scalia, J., dissenting in part) (“[L]egislation by inaction’ theory of the negative Commerce Clause seems to be the only basis for the doctrine . . .”) (citation omitted); *Welton v. Missouri*, 91 U.S. 275, 282 (1876) (“[Congress’] inaction . . . is equivalent to a declaration that inter-State commerce shall be free and untrammelled.”).

108. *W. & S. Life Ins. Co. v. State Bd. of Equalization*, 451 U.S. 648, 652–53 (1981) (“If Congress ordains that the States may freely regulate an aspect of interstate commerce, any action taken by a State within the scope of the congressional authorization is rendered invulnerable to Commerce Clause challenge.”); *see also* *Lewis v. BT Inv. Managers, Inc.*, 447 U.S. 27, 44 (1980) (“Congress . . . may exercise this power indirectly by conferring upon the states an ability to restrict the flow of interstate commerce that they would not otherwise enjoy.”) (citing *H.P. Hood & Sons, Inc.*, 336 U.S. at 542–43; *Prudential Ins. Co. v. Benjamin*, 328 U.S. 408, 423–24 (1946); *Int’l Shoe Co. v. Washington*, 326 U.S. 310, 315 (1945)).

109. *Or. Waste Sys., Inc.*, 511 U.S. at 98 (referencing *Wyoming v. Oklahoma*, 502 U.S. 437, 454 (1992); *Welton*, 91 U.S. at 280–82); *accord* *New Energy Co. of Ind.*, 486 U.S. at 273; *Hughes*, 441 U.S. at 326; *H.P. Hood & Sons*, 336 U.S. at 534–35; *Cooley v. Bd. of Wardens*, 53 U.S. (12 How.) 299 (1852).

110. *Pike v. Bruce Church, Inc.*, 397 U.S. 137 (1970).

prohibits.”¹¹¹ Chief Justice John Marshall set forth the first dividing line between federal and state jurisdiction in 1824: under the dormant Commerce Clause, a state retained authority over its police power.¹¹² This general standard eluded easy definition and eventually proved too broad, even for Marshall.¹¹³ In 1851, Justice Benjamin Curtis wrote that some activities were so “national” in character that Congress must reserve jurisdiction to maintain the necessary national uniformity; whereas, other activities were so local in character that regulation should be left to the states.¹¹⁴ Much like the police power standard, the national/local distinction proved impossible to apply consistently.¹¹⁵

The Court moved away from examining the subject matter of the regulation to examining the manner in which the regulation affected interstate commerce—directly or indirectly.¹¹⁶ This standard also failed because many critics viewed it as “result-oriented, subjective, mechanical, uncertain, and ‘too remote from actualities, to be of value.’”¹¹⁷ These unsuccessful experiments continued until 1970.

With the Supreme Court’s decision in *Pike v. Bruce Church, Inc.* dawned a new era in dormant Commerce Clause jurisprudence. For the first time, the Court drew a distinction between a statute that discriminated and a statute that did not.¹¹⁸ For nondiscriminatory statutes, the Court formulated a new “balancing” standard: “Where the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on

111. *CTS Corp. v. Dynamics Corp. of Am.*, 481 U.S. 69, 87 (1987); see also Catherine Gage O’Grady, *Targeting State Protectionism Instead of Interstate Discrimination Under the Dormant Commerce Clause*, 34 SAN DIEGO L. REV. 571, 610–13 (1997) (describing the history of dormant Commerce Clause jurisprudence).

112. *Gibbons v. Ogden*, 22 U.S. (9 Wheat.) 1, 204 (1824).

113. See, e.g., *Willson v. Black Bird Creek Marsh Co.*, 27 U.S. (2 Pet.) 245, 250–51 (1829) (arguing that the state’s interest in valuable property allowed it to authorize the construction of a dam that obstructed the flow of an interstate waterway); see also *Stone v. Mississippi*, 101 U.S. 814, 818 (1879) (“Many attempts have been made in this court and elsewhere to define the police power, but never with entire success.”); JUSTICE FELIX FRANKFURTER, *THE COMMERCE CLAUSE UNDER MARSHALL, TANEY, AND WAITE* 27 (1937) (arguing that the term “police power” eluded definition because it required an ever-changing response to society).

114. *Wabash, St. Louis and Pacific Ry. Co. v. Illinois*, 118 U.S. 557, 571 (1886) (overruling *Peik v. Chi. & Nw. Ry. Co.*, 94 U.S. 164 (1876)); *Cooley*, 53 U.S. at 319.

115. LAURENCE H. TRIBE, *AMERICAN CONSTITUTIONAL LAW* 408 (2d ed. 1978).

116. E.g., *Hall v. DeCuir*, 95 U.S. 485, 488 (1877) (“State legislation which seeks to impose a direct burden upon inter-state commerce, or to interfere directly with its freedom, does encroach upon the exclusive power of Congress.”).

117. O’Grady, *supra* note 111, at 612 (quoting *DiSanto v. Pennsylvania*, 273 U.S. 34, 44 (1927) (Stone, J., dissenting)). “[In] making use of the expressions, ‘direct’ or ‘indirect interference’ with commerce, [the Court is] doing little more than using labels to describe a result rather than any trustworthy formula by which it is reached.” *Id.* (second alteration in original).

118. *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 145 (1970).

interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits.”¹¹⁹ When a statute does discriminate, the reviewing court will subject it to stricter scrutiny. For example, if a statute requires that activities occur within a state, reviewing courts will deem it “virtually per se illegal.”¹²⁰ Instead of focusing on the subject matter of the regulation or the manner in which the statute impacted commerce, the Supreme Court’s post-*Pike* inquiry focuses on whether a statute discriminated and what local benefits might offset such discrimination.

Although the Supreme Court articulated both a discriminatory and nondiscriminatory standard of review, both jurists and scholars cite *Pike* primarily as introducing balancing for nondiscriminatory regulations.¹²¹ The actual holding of *Pike* may provide a reason for this phenomenon. The regulation at issue in *Pike* required Arizona fruit and vegetable producers to crate their product in-state and label it as Arizona produce before it could leave the state.¹²² While the statute seemed discriminatory on its face, the Court chose to examine it under the nondiscriminatory, “even-handed” standard and weigh the burden on interstate commerce against the putative local benefits.¹²³ The *Pike* Court held that Arizona’s interest in requiring in-state facilities for labeling and packaging was “minimal at best” and was outweighed by the burden placed upon out-of-state producers.¹²⁴ Thus, in striking down the statute as unconstitutional, the Court applied the nondiscriminatory “balancing” test to a seemingly discriminatory statute. This provided lower courts no reason to look beyond the “balancing” aspect of *Pike* to the per se test when striking down state law. Further, the Court’s choice to treat a discriminatory regulation as even-handed prompted the emergence of a more discrimination-focused model.¹²⁵

119. *Id.* at 142. The Court’s full enumeration of the *Pike* balancing test is as follows: Where the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits. . . . If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities.

Id.

120. *Id.* at 145.

121. O’Grady, *supra* note 111, at 573 n.10, 614 (citation omitted).

122. *Pike*, 397 U.S. at 144.

123. *Id.* at 145–46.

124. *Id.*

125. See O’Grady, *supra* note 111, at 614 (“[The *Pike* opinion set] the stage for the emergence of a discrimination-focused model of dormant Commerce Clause review.”).

2. The Simple Per Se Test and Complex *Pike* Balancing

The New Jersey statute at issue in *Philadelphia v. New Jersey* forced the Supreme Court to examine the discrimination prong articulated in *Pike* because the language of the statute clearly discriminated on its face. The statute prohibited the importation of most “solid or liquid waste which originated or was collected outside the territorial limits of the state.”¹²⁶ Philadelphia sued New Jersey for refusing to allow waste originating in Philadelphia to enter the State of New Jersey.¹²⁷ After discussing the two-tiered approach in *Pike*, the Court honed its approach for determining whether or not a state regulation discriminates against interstate commerce.¹²⁸ First, the Court recognized facially discriminatory statutes in more narrow language than in *Pike*: “[W]here *simple economic protectionism* is effected by state legislation, a virtually *per se* rule of invalidity has been erected.”¹²⁹ The Court contrasted this with “as applied” discrimination, where it “adopted a much more flexible approach, the general contours of which were outlined in *Pike v. Bruce Church*.”¹³⁰ Thus, the Supreme Court positioned its holding in *Philadelphia* as a contrast to the balancing test in *Pike*.¹³¹ In doing so, the Court set in motion a shift in its dormant Commerce Clause jurisprudence away from balancing and towards heightened scrutiny.¹³²

In applying the heightened discriminatory, or “per se,” analysis, however, the *Philadelphia* Court did not limit its examination to the language of the statute. Instead, the Supreme Court enumerated several reasons for invalidating the statute including New Jersey’s attempt to accrue benefits only by burdening outsiders, the State’s failure to treat its own waste in an equally discriminatory way, and the potential exacerbation of the shared waste problem in the United States.¹³³ Even though the statute discriminated on its face, the Supreme Court weighed other concerns, rather than automatically striking the statute down as per se

126. *City of Philadelphia v. New Jersey*, 437 U.S. 617, 618 (1978) (quoting N.J. STAT. ANN. § 13:11-10 (West Supp. 1978)).

127. *Id.* at 619.

128. *Id.* at 624–29. For an argument that this resulted in oversimplification rather than simplification, see Stanley E. Cox, *Garbage In, Garbage Out: Court Confusion About the Dormant Commerce Clause*, 50 OKLA. L. REV. 155, 165–67 (1997).

129. *Philadelphia*, 437 U.S. at 624 (first emphasis added).

130. *Id.* (citation omitted).

131. See Cox, *supra* note 128, at 166 (“Thus was launched *Pike* versus per se.”).

132. See *id.* at 167 (“[T]he *Philadelphia* Court’s ‘virtual per se rule of invalidity’ language had a talismanic lure to it which unfortunately proved irresistible to later panels.”).

133. *Philadelphia*, 437 U.S. at 628–29. “On its face, it imposes on out-of-state commercial interests the full burden of conserving the State’s remaining landfill space.” *Id.* at 628.

invalid.¹³⁴

a. Per Se “Pigeonholing”

Other cases have pushed the per se invalidity doctrine from *Philadelphia v. New Jersey* to a further extreme. In those cases, the Court has “pigeonholed” any regulation that results in a disparate economic impact in one state when compared to another as per se invalid even in the absence of facially discriminatory language.¹³⁵ For example, in *Hughes v. Oklahoma*, the Court invalidated a statute prohibiting any person from leaving the state with more than three dozen minnows in his or her possession.¹³⁶ The regulation did not limit how many minnows a person could catch depending on the minnow-catcher’s state of origin or, for that matter, the minnows’ state of origin.¹³⁷ Instead, the offensive portion of the statute limited how many minnows a person could export “for purposes of sale” and thus, “overtly block[ed] the flow of interstate commerce at [the] State’s borders.”¹³⁸ *Hughes* seems to expand the definition of discrimination from the disparate treatment of entities based on state origin to any restriction that allows one state to have an economic advantage over another.

In these pigeonholing cases, the Court rarely proceeds after recognizing point-of-origin or geographic limitations that might favor local interests to the detriment, however slight, of interstate commerce. For example, in *Hughes*, none of the benefits of maintaining the minnow population were discussed in any depth. Instead, the Court dismissed them as a “post hoc rationalization.”¹³⁹ Consequently, the Court almost never examines any justifications or legitimate state interests under this heightened per se

134. See Cox, *supra* note 128, at 166–67 (“In short, the *Philadelphia* Court engaged in real analysis to reach its conclusion of protectionism. It did not substitute the label of differential treatment for determining whether there was any real evil to the regulation.”). But see *id.* at 167 n.29 (“The *Philadelphia* Court . . . oversimplified the factual situation before it. By likening the barrier to waste importation . . . to a ban on goods coming into a state, the Court gave too short shrift to New Jersey’s quarantine . . . arguments.”).

135. *Id.* at 166. Cox also argues that the Court engages in such “pigeonholing” in cases where states have attempted to regulate the flow of garbage for environmental health. See *id.* at 156 (“[T]he Court has insisted on labeling a regulation either discriminatory or nondiscriminatory before it engages in any further analysis. This emphasis on pre-sorting has led to increasingly unproductive wrangling about what label should be put on a regulation rather than inquiring about the benefits and harms of the regulation.”).

136. *Hughes v. Oklahoma*, 441 U.S. 322, 337–38 (1979).

137. *Id.* at 323 n.1 (citing OKLA. STAT., tit. 29 § 4-115(B) (Supp. 1978)).

138. *Id.* at 336–37 (second alteration in original) (quoting *Philadelphia*, 437 U.S. at 624).

139. *Id.* at 338 n.20.

scrutiny.¹⁴⁰

b. Complexity and Unpredictability in *Pike* Balancing

Perhaps the Supreme Court focused its dormant Commerce Clause jurisprudence on discrimination because of the difficulty in applying the *Pike* balancing test to seemingly even-handed regulations. When applying *Pike*, the Court must subjectively balance the local interest with the perceived burden on interstate commerce.¹⁴¹ This balancing depends on three factors: proof of a legitimate local purpose, an incidental—rather than purposeful—discriminatory effect, and the unavailability of less burdensome alternatives.¹⁴² But Justice Scalia argues that “the scale analogy is not really appropriate, since the interests on both sides are incommensurate. It is more like judging whether a particular line is longer than a particular rock is heavy.”¹⁴³ When compared with the simplicity of modern per se analysis, few jurists would prefer to undertake the complex fact gathering and subjective judgments involved in *Pike* balancing.

c. Geographic Limitation as Per Se Discrimination

The Supreme Court’s decision to strike down a state regulation under the dormant Commerce Clause depends, almost solely, on whether the Court concludes that the regulation discriminates against out-of-state commerce.¹⁴⁴ The Court, however, has not set forth a bright-line test that indicates whether a regulation actually discriminates.¹⁴⁵ Instead, the nearly fatal per se standard applies when a regulation contains a limit based on geography or point of origin, regardless of whether or not such a limit indicates a discriminatory intent or effect.¹⁴⁶ To avoid the per se standard, a state should eliminate or minimize any geographic limitations contained in a statute and emphasize the value of the local benefits so the Court will apply the *Pike* balancing test.¹⁴⁷ Although *Pike* balancing is unpredictable,

140. *Cf. Maine v. Taylor*, 477 U.S. 131, 151 (1986) (upholding Maine’s ban on imported baitfish because of Maine’s legitimate interest in maintaining its aquatic ecosystem and the unavailability of reasonable alternatives).

141. *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970).

142. *Id.*

143. *Bendix Autolite Corp. v. Midwesco Enter., Inc.*, 486 U.S. 888, 897 (1988) (Scalia, J., concurring).

144. Ferrey, *Sustainable Energy*, *supra* note 22, at 581.

145. *Id.*

146. *See id.* (“Even in the absence of a discriminatory intent, courts are able to find Commerce Clause violations to prevent the ‘Balkanization’ of various states’ regulations.”).

147. Ferrey, *Sustainable Energy*, *supra* note 22, at 583.

in contrast to the per se test, *Pike* offers states some hope that their regulations and laws will withstand a dormant Commerce Clause challenge.

B. Subject-Specific Applications

1. Energy Aspects

In some instances, the Supreme Court has allowed states to discriminate against out-of-state interests when regulating energy. For example, the Court has held that when a state acts in a proprietary mode, as the owner of a public utility company, or in a purely intrastate manner, the state may organize and control its own resources as a means of benefiting in-state interests despite the resulting discrimination against out-of-state commerce results.¹⁴⁸ A state-enacted RPS arguably constitutes regulatory rather than proprietary behavior because the state does not act as the owner or price-setter but rather indirectly manages the demand for renewable energy.¹⁴⁹

When a state acts as a regulatory agent, as it does when creating an RPS, the Supreme Court and other federal appellate courts have subjected energy regulations containing language favoring in-state interests to the per se test and, consequently, invalidated these policies. For example, the Court struck down a statute that required the use of indigenous fuel supplies for electricity production in *Wyoming v. Oklahoma*.¹⁵⁰ Additionally, in *New Energy Company of Indiana v. Limbach*, the Court invalidated an Ohio

148. *Id.* at 582; see also *Arkansas Elec. Coop. v. Arkansas Pub. Serv. Comm'n*, 461 U.S. 375, 393–94 (1983) (upholding the proprietary application of wholesale rates to a retail distributor by the State of Arkansas because the effect on interstate commerce was only incidental); *Reeves, Inc. v. Stake*, 447 U.S. 429, 440 (1980) (holding that South Dakota was entitled to a market-participant exception when acting as a seller of cement); *Hughes v. Alexandria Scrap Corp.*, 426 U.S. 794, 809–10 (1976) (holding that Maryland was permitted to pay “bounties” with state funds for the removal of automobile scraps from Maryland junkyards and thus favor its own citizens).

149. Admittedly, this is an oversimplification. The issue of jurisdiction for state regulation (and thus the Supremacy Clause) is far from neatly demarcated for regional electricity generation. See Eisen, *supra* note 95, at 309–10 (“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 the intersection of state and federal jurisdiction in the context of a [RPS].”) (citing and discussing 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)). For the sake of argument, this Note assumes, without analysis, that the Supreme Court (or any court) would proceed beyond a Supremacy Clause argument and reach the dormant Commerce Clause issue.

150. *Wyoming v. Oklahoma*, 502 U.S. 437, 454–55 (1992).

income tax credit given only to in-state ethanol producers.¹⁵¹ In applying the per se test to these statutes, the Supreme Court ignored any resulting local benefits. Lower courts, following Supreme Court precedent, have likewise invalidated similar regulations. For example, the Seventh Circuit invalidated Illinois's stated preference for using Illinois coal to satisfy Clean Air Act amendments.¹⁵² These cases offer little hope for any RPS containing a geographic limit in its language.¹⁵³

2. Environmental Aspects

In the ten years following *Philadelphia v. New Jersey*, the Supreme Court gave considerable deference to the environmental benefits promoted by state regulations. Under both the *Pike* and per se tests, the Court upheld dormant Commerce Clause challenges to regulations designed to improve or preserve a state's environment with a resulting burden on interstate commerce. In *Minnesota v. Clover Leaf Creamery Co.*, the Court upheld a Minnesota statute banning the use of environmentally unfriendly plastic milk containers even though the economic impact benefited in-state industry and heavily burdened out-of-state entities.¹⁵⁴ Applying *Pike*, the Court found that the statute "regulate[d] evenhandedly" by prohibiting all milk retailers from selling their products in plastic, nonreturnable milk containers, without regard to whether the milk, the containers, or the sellers are from outside the state.¹⁵⁵ The majority further found that the burden on interstate commerce was not clearly excessive in light of the putative local benefits enumerated by the state: "promoting conservation of energy and other natural resources and easing solid waste disposal problems."¹⁵⁶ When the Supreme Court determines that a statute regulates even-handedly, the Court has consistently recognized environmental health as a legitimate local benefit justifying some burden on interstate commerce.

Even under the per se test, the Supreme Court has recognized the importance of preserving a species and ecosystem. In *Maine v. Taylor*, the Court examined a dormant Commerce Clause challenge to a Maine statute that made it a crime for any person to "import[] into this State any live fish, including smelts, which are commonly used for bait fishing in inland

151. *New Energy Co. of Ind. v. Limbach*, 486 U.S. 269, 271, 278–80 (1988).

152. *Alliance for Clean Coal v. Miller*, 44 F.3d 591, 596–97 (7th Cir. 1995).

153. *Ferrey*, *Sustainable Energy*, *supra* note 22, at 583.

154. *Minnesota v. Clover Leaf Creamery Co.*, 449 U.S. 456, 472–73 (1981). The Court also held that when the burden on out-of-state commerce is an incidental result of the regulation, the Court need not examine the availability of less burdensome alternatives. *Id.* at 473–74.

155. *Id.* at 471–72.

156. *Id.* at 473.

waters.”¹⁵⁷ The majority opinion, written by Justice Blackmun, focused not just on the language of the regulation, but also the state’s interest in putative local benefits.¹⁵⁸ He wrote that after the Court deems a state law discriminatory, “the burden falls on the State to demonstrate both that the statute ‘serves a legitimate local purpose,’ and that this purpose could not be served as well by available nondiscriminatory means.”¹⁵⁹ The Court in *Maine* ruled that although the measure was discriminatory on its face, species preservation was a legitimate local benefit, and Maine had no other scientific method of maintaining its baitfish population aside from the total ban set forth in the statute.¹⁶⁰ No other statute in dormant Commerce Clause jurisprudence has withstood the scrutiny of the Court’s presumptive per se invalidity. Although the Court’s holding depends on the unique nature of species preservation and a legitimate lack of other alternatives, *Maine v. Taylor* offers states the hope that the Court will examine the purported environmental benefits despite the presence of facial discrimination and application of per se scrutiny. Considering that this occurred in only one case, the hope is a faint one.

Two recent garbage cases suggest that the Court will return to “pigeonholing” and may completely ignore the environmental benefits of an RPS that favors in-state entities. In both cases, the Supreme Court invalidated state-enacted programs designed to facilitate more environmentally friendly waste planning.¹⁶¹ In *Fort Gratiot Sanitary Landfill v. Michigan Department of Natural Resources*, the Court examined a statute designed to combat “not in my backyard” (NIMBY) politics.¹⁶² The statute allowed local communities to exclude both out-of-county and out-of-state trash unless they authorized this type of waste to be deposited in their county in their county solid waste management plan.¹⁶³ Although the statute did not discriminate on its face, the petitioners raised a facial challenge.¹⁶⁴ Michigan argued that the legislation did not discriminate in

157. *Maine v. Taylor*, 477 U.S. 131, 132 n.1 (1986) (quoting ME. REV. STAT. ANN. tit. 12, § 7613 (1981)).

158. *See id.* at 148 (“Maine has a legitimate interest in guarding against imperfectly understood environmental risks, despite the possibility that they may ultimately prove to be negligible.”).

159. *Id.* at 138 (citing *Hughes v. Oklahoma*, 441 U.S. 322, 336 (1979)). Although the Court articulated this more relaxed standard in *Hughes*, the Court did not apply it.

160. *Taylor*, 477 U.S. at 148–52.

161. *See generally* Cox, *supra* note 128 (discussing the major Supreme Court, circuit court, and district court cases involving garbage).

162. *Fort Gratiot Sanitary Landfill, Inc. v. Mich. Dep’t of Natural Res.*, 504 U.S. 353, 356–57 (1992). For a discussion of NIMBY politics and policy, see Cox, *supra* note 128, at 168 n.35.

163. *Fort Gratiot*, 504 U.S. at 357.

164. *See id.* at 357–58 (noting that the statute applied equally to other Michigan counties as well as out-of-state entities).

either purpose or effect,¹⁶⁵ but the Court declared that the statute was per se invalid.¹⁶⁶ In light of *Philadelphia v. New Jersey* and its progeny, this should come as no surprise. Michigan's regulation offered more legitimate local benefits than other regulations the Court had previously upheld,¹⁶⁷ but the Court appears to have pushed any examination of environmental benefits out of the picture in this case, focusing only on whether the regulation discriminates on its face.¹⁶⁸

The Supreme Court took the per se test a step further in *C & A Carbone v. Town of Clarkstown*.¹⁶⁹ The state environmental agency entered into a consent decree with the town that shut down the local dump and commissioned a local contractor to build a waste-transfer facility.¹⁷⁰ As a means to pay for its construction, Clarkstown agreed to have all users of the facility pay above-market tipping fees for five years and, if that did not cover the construction costs, the town agreed to continue paying the higher fees after the five-year period.¹⁷¹ At the end of the five-year period, Clarkstown would own the facility.¹⁷² The majority took most of the opinion to debate the abstract legality of ordinances designed to control the flow of garbage rather than Clarkstown's actual scheme.¹⁷³ Despite arguments in the concurrence and dissent that the majority was misinterpreting prior dormant Commerce Clause holdings,¹⁷⁴ the majority

165. *Id.* at 361.

166. *Id.* at 367–68.

167. *See Cox, supra* note 128, at 171 (“Unlike the charades of legitimate local purpose, which the Court unmasked as economic protectionism in cases like *Hunt . . . , Dean Milk . . . ,* or even in *Philadelphia*, Michigan was potentially capable of showing that its legislation neither displaced nor severely harmed the interstate waste market.”).

168. *See id.* at 156 (“[T]he Court has insisted on labeling a regulation either discriminatory or nondiscriminatory before it engages in any further analysis. This emphasis on pre-sorting has led to increasingly unproductive wrangling about what label should be put on a regulation rather than inquiring about the benefits and harms of the regulation.”).

169. *C & A Carbone, Inc. v. Town of Clarkstown*, 511 U.S. 383 (1994).

170. *Id.* at 386–87.

171. *Id.* at 387. The town knew it could fulfill this because the ordinance required all waste generated in Clarkstown to be dumped at the facility under threat of criminal prosecution. *Id.* “This is known as a ‘put or pay’ agreement, since the government entity must either ‘put’ the amount of trash contracted for with the facility, thereby generating its revenue, or ‘pay’ the facility for any shortfall in volumes and concomitant disposal fees.” *Cox, supra* note 128, at 182 n.80.

172. *C & A Carbone*, 511 U.S. at 387.

173. *See id.* at 391–95 (comparing flow-control ordinances, in general, to other local processing requirements). For a discussion of whether or not the Court should have even ruled so broadly after the shift in focus from the out-of-state origin of trash to flow control in the abstract, see Stanley E. Cox, *What May States Do About Out-of-State Waste in Light of Recent Supreme Court Decisions Applying the Dormant Commerce Clause? Kentucky as a Case Study in the Waste Wars*, 83 KY. L.J. 551, 596 (1994).

174. *C & A Carbone*, 511 U.S. at 404 (O’Connor, J., concurring) (“Unlike the regulations we have previously struck down, Local Law 9 does not give more favorable treatment to local interests as a

found that flow control “prevents everyone except the favored local operator from performing the initial [waste] processing step” and “thus deprives out-of-state businesses of access to a local market.”¹⁷⁵ The Court found that the ordinance discriminated against interstate commerce, despite the fact that Clarkstown’s flow ordinance banned local as well as out-of-state processors from competing with the monopolist.¹⁷⁶ Once again, the majority did not reach the environmental benefits in its analysis.

For statutes designed to improve the environment of a state that necessarily require some change in access to a market or service, the outlook has grown somewhat bleak. Although *Clover Leaf Creamery* offers states some hope that the Court will examine environmental regulations subject to dormant Commerce Clause challenge using the *Pike* balancing test, thus increasing a regulation’s chances of survival, and *Maine v. Taylor* offers states hope that the Court will weigh, even under per se analysis, the environmental benefits that a regulation provides, the Court’s recent decisions in *Fort Gratiot* and *C & A Carbone* indicate that the Court will strike down any regulation that perceivably discriminates based on geography without examining the purported environmental benefits.

III. LOCAL BENEFIT DELIVERY: THE ANTIDOTE TO PER SE SCRUTINY IN DORMANT COMMERCE CLAUSE ANALYSIS OF A STATE-ENACTED RPS

States can avoid the dangers of per se scrutiny by basing RPS-eligibility requirements primarily on benefit delivery instead of location. Part III of this Note begins with a discussion of how a thorough articulation of local benefits and a lack of alternative means for accruing those benefits can combat per se scrutiny in dormant Commerce Clause analysis. States

group as compared to out-of-state or out-of-town economic interests.”); *see also id.* at 417–30 (Souter, J., dissenting) (noting that the Commerce Clause was designed only to ensure that no discrimination occurred based on a competitor’s geographic location, recognizing the legitimacy of the local concern, and acknowledging that the burdens resulting from a lack of competition would fall on the very citizens who passed the ordinance).

175. *Id.* at 389.

176. *Id.* at 390–93. When specifically comparing the ordinance to measures that the Court had previously struck down, the majority stated:

The only conceivable distinction from the cases cited above is that the flow control ordinance favors a single local proprietor. But this difference just makes the protectionist effect of the ordinance more acute. In *Dean Milk*, the local processing requirement at least permitted pasteurizers within five miles of the city to compete. An out-of-state pasteurizer who wanted access to that market might have built a pasteurizing facility within the radius. The flow control ordinance at issue here squelches competition in the waste-processing service altogether, leaving no room for investment from outside.

Id. at 392.

must identify the local benefits and be aware of how the design of an RPS—REC-based or bundled—will greatly affect the accrual of benefits. Part III then uses an industry treatise written by scholars Nancy Rader and Scott Hemperling to guide states through the reasons why most state limits will not escape per se scrutiny in a dormant Commerce Clause challenge, but also why regional eligibility limits disguised as eligibility based on benefit delivery will survive a constitutional challenge.

A. The Importance of Local Benefits in Dormant Commerce Clause Analysis

Unless a regulation discriminates against out-of-state entities on its face, local benefits should play a significant role in the Supreme Court's dormant Commerce Clause analysis. States must carefully articulate the benefits a regulation achieves, a means of measuring the in-state accrual of that benefit, and how the regulation achieves the local benefit. Once a state establishes these, it can fight to justify the enactment of a regulation under a dormant Commerce Clause attack.

A brief description of the Supreme Court's overall process for applying the dormant Commerce Clause will illustrate the important role of local benefits. The Court first examines the language of the statute to see if it discriminates.¹⁷⁷ A statute discriminates if it contains language that treats two entities differently based on geographic characteristics, particularly statehood.¹⁷⁸ Under *C & A Carbone*, the Court views facially discriminatory statutes as per se invalid and will strike them down without fully examining the environmental benefits.¹⁷⁹ *Maine v. Taylor*, however, instructs that the Court may uphold facially discriminatory statutes if the state can prove that no less restrictive means exist for achieving the purported local benefit.¹⁸⁰ This begs the question: when will the Court apply *Maine v. Taylor* and reach local benefits, and when will it pigeonhole as in *C & A Carbone* and ignore the local benefits?

While the will of the Supreme Court is not easily divined, the majority in *C & A Carbone* quotes *Maine v. Taylor* for the proposition that when a regulation discriminates on its face, the state has the burden of proving that no less discriminatory means exist for achieving the local benefit.¹⁸¹

177. *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 145 (1970).

178. See *supra* notes 119–20 and accompanying text.

179. *C & A Carbone*, 511 U.S. at 392.

180. See *Maine v. Taylor*, 477 U.S. 131, 151 (1986) (“Maine’s ban on the importation of live baitfish serves legitimate local purposes that could not adequately be served by available nondiscriminatory alternatives.”).

181. See *C & A Carbone*, 511 U.S. at 392 (quoting *Taylor*, 477 U.S. at 138).

Considering the Court's choice to dismiss the local benefits after acknowledging *Maine v. Taylor*, the Court appears to place a heavy burden on states to articulate the unique benefits and lack of less discriminatory alternatives from the beginning of the litigation. Thus, the combination of a clear articulation of how a regulation affects the accrual of local benefits and a lack of a less discriminatory alternatives offers state lawmakers their only hope that the Court will not deem a facially discriminatory regulation per se invalid. Even if the Court finds that the RPS does not discriminate, but rather "regulates evenhandedly," the Court will apply *Pike* and weigh the burden on interstate commerce against the putative local benefits to see if the burden is excessive.¹⁸² Where the burden is excessive, the Supreme Court will invalidate the statute.¹⁸³ Thus, under any level of scrutiny in a dormant Commerce Clause challenge, the importance and measurability of the local benefit will significantly impact the fate of an RPS.

1. Identifying the Environmental Benefits of an RPS: Measuring the Path of Electricity

States face a great challenge when identifying important and unique local benefits resulting from their RPS and demonstrating that no alternative means exist for capturing those benefits. State lawmakers and regulators typically design an RPS to advance the growth of renewable resources and technology within the state.¹⁸⁴ Various specific benefits occur if a state achieves this general goal—environmental benefits, energy resource diversity, technology advancement, in-state economic development, and the political benefits of responding to public support for renewable energy.¹⁸⁵ Aside from the economic and political advantages, most of these benefits do not honor political boundaries.¹⁸⁶ In particular, environmental benefits rarely accrue in one state.¹⁸⁷ Instead they accrue regionally or sometimes even nationally.¹⁸⁸ While none of these goals raise constitutional issues in the abstract, the practical measures employed to ensure that these boundary-less benefits accrue within a given state pose

182. *Pike*, 397 U.S. at 142.

183. *Id.*

184. RADER & HEMPLING, *supra* note 23, at 2.

185. *Id.* at 2–5, 15–17.

186. *See id.* at 33 (“[K]ey facets of RPS policy . . . have externalities that do not honor political boundaries. Thus it is difficult to predict whether restrictions other than those based on in-state benefits will in practice benefit the enacting state. It is also hard to tell whether resources located outside of the state will produce the same, fewer, or greater benefits for in-state customers.”).

187. *Id.*

188. *Id.*

some legal difficulty.¹⁸⁹

In this regard, measuring the path of electricity poses some difficult but important problems for a state looking to justify its RPS. The difficulty lies in ensuring that the environmental benefits of renewable energy accrue in-state. Unless electricity follows a direct path from renewable energy producer to a consumer via a bilateral contract,¹⁹⁰ it will flow over interstate grids commingling with energy derived from different sources in different states—rendering impossible the task of tracking where electricity originated or where it will be consumed.¹⁹¹ Most states operate in an ISO/power pool regional grid whereby the contract requires only that a producer deliver the electricity into the pool and not directly to the consumer.¹⁹²

2. REC vs. Bundled

When a renewable electricity producer sells and delivers renewable electricity into an ISO, regulators say that the actual electricity and the environmental attribute of producing clean electricity are “bundled.”¹⁹³ If a state can show that electricity is sold or delivered into a regional ISO, the state can argue, based on historical consumption patterns and the flow of electricity within the grid, that the ISO provides an adequate model indicating that the electricity will be consumed in-state.¹⁹⁴ By this logic, RPS-eligibility requirements based on interconnection, or a “bundled” interconnection, provide the only reasonable means of measuring whether renewable electricity will reach in-state consumers.¹⁹⁵ Although a bundled RPS does not guarantee that the air will be cleaner in the state, it reasonably indicates that renewable electricity will displace nonrenewable electricity flowing into the state and regional ISO, and that the resulting technology improvements will benefit the in-state flow of electricity.¹⁹⁶

189. *See id.* (“The attractiveness of location restrictions arises from a simple political point: for a state’s RPS policy to win public support, its benefits must accrue to the state.”).

190. *Id.* at 34; *see also supra* Part I.E.

191. *Id.*

192. *See supra* Part I.E.

193. *See FERREY, INDEPENDENT POWER, supra* note 10, § 10:98 (defining “bundling” as “sales where electricity and its ‘green’ attributes are bundled together as a single product in a single transaction . . . [in] a bilateral contract.”); *see also supra* Part I.E.

194. *See RADER & HEMPLING, supra* note 23, at A-3 (“[I]f the generator is able to deliver to the New England Power Pool, it is likely to be in a location where its displacement and diversity benefits can accrue to Maine.”).

195. *Id.*

196. *See id.* at A-2 (“[When] eligibility is limited to generators that deliver their power to a location relatively near consumers, [this] ensur[es] that the renewable generation displaces non-

Unlike a bundled system, a state-enacted RPS with only an REC distribution-and-trading scheme will struggle to demonstrate that renewable electricity is displacing nonrenewable electricity that would have entered the ISO grid. An REC represents the environmental attributes of producing electricity from renewable sources instead of fossil fuels.¹⁹⁷ By design, REC schemes eliminate the need for costly interconnection by allowing electricity retailers to purchase RECs from renewable generators and submit them annually to the state regulators.¹⁹⁸ Consequently, in a purely REC-based RPS, states should require that generators connect to the grid. Without a connection, states cannot guarantee that renewable electricity is replacing nonrenewable electricity supply flowing into the ISO grid that will likely reach in-state consumers. Thus, in bundled RPS schemes, as opposed to purely REC-based RPS schemes, the very interconnection costs that RECs were designed to overcome actually make it easier for a state to demonstrate that benefits accrue in-state or in-region. These RPS design differences will have a significant impact on the Supreme Court's evaluation of the in-state accrual of local benefits in a dormant Commerce Clause challenge.

B. State Limitations

State-based limitations in RPS-eligibility requirements could take three different forms: an in-state location requirement, an in-state consumption requirement, or an in-state sales requirement.¹⁹⁹ An in-state location requirement would likely only occur in a purely REC-based RPS, whereas in-state consumption and sales requirements pertain to a bundled RPS because, by definition, their criteria require the electricity to enter the state on a grid. The Supreme Court will likely invalidate an in-state location in an REC-based RPS, let an in-state consumption survive based on *Maine v. Taylor*, and not invalidate an in-state sales requirement.

1. In-State Location Limits in an REC-Based RPS: Per Se Invalid

In-state, location-based requirements in a purely REC-based RPS are per se invalid. Since RECs exist to circumvent the cost and effort associated with physical interconnection with an ISO grid, a state cannot successfully argue that RECs guarantee that nonrenewable electricity will

renewable generation that otherwise would have operated to serve these consumers.”).

197. Haddad & Jefferiss, *supra* note 20, at 70.

198. *Id.*

199. RADER & HEMPLING, *supra* note 23, at A-1.

be replaced with renewable electricity in the ISO because an REC represents an attribute, not electricity.²⁰⁰ In an attempt to ensure that the environmental benefits of renewable electricity generation accrue in-state, a state might condition REC eligibility on in-state location. Considering that a bundled RPS does not involve an examination of where a generator is located, the state would fail to convince the Court that no less discriminatory means exist. The Court would find an REC-based RPS requirement based on in-state location facially discriminatory and deem it *per se* invalid.²⁰¹ Not all state-based limits, however, necessarily discriminate based on the location of the entity selling the electricity.

2. In-State Consumption Requirements in a Bundled RPS—A Glimmer of Hope

For example, an in-state consumption requirement is essentially a bundled RPS because it requires that a generator demonstrate only that electricity consumption reasonably occurs in the state.²⁰² Demonstrating that the physical path of electricity ends with in-state consumption, however, is nearly impossible.²⁰³ According to scholars Nancy Rader and John Hempling, the enacting state would have to argue that while an in-state consumption requirement “discriminat[es] against generators whose output does not physically flow into the state,” this discrimination is reasonable because it serves as “a proxy for benefits to the state.”²⁰⁴ But since environmental benefits do not obey state boundaries, the Court would find that the RPS does discriminate and hence invalidate it.²⁰⁵ The Supreme Court’s jurisprudence supports this reasoning.

In *C & A Carbone, Inc. v. Town of Clarkstown*, the Court examined a statute that did not discriminate on its face, but rather created a temporary monopoly so that Clarkstown could remedy its garbage-flow problems.²⁰⁶ Although the statute applied equally to local and out-of-state operators, the majority found that the higher fees for use of the facility “deprive[d] out-of-state businesses of access to a local market.”²⁰⁷ The majority did little more

200. Haddad & Jefferiss, *supra* note 20, at 70.

201. See RADER & HEMPLING, *supra* note 23, at A-1 (citing *Philadelphia v. New Jersey*, 437 U.S. 617, 624 (1978)).

202. *Id.* at A-4.

203. See *id.* at A-4 to A-5 (noting that flows can change every hour due to weather, demand, and outages, and also that electricity flowing into a state can easily flow out of a state without ever being consumed).

204. *Id.* at A-5.

205. *Id.*

206. *C & A Carbone, Inc. v. Clarkstown*, 511 U.S. 383, 392 (1994).

207. *Id.* at 389.

than mention the purported local benefits of the statute.²⁰⁸ Moreover, the majority characterized garbage-flow-control ordinances, which attempt to prevent overfilling at specific sites, as constitutionally suspect.²⁰⁹ To be effective, the garbage-flow-control ordinance at issue necessarily required charging some parties more to access a dump, just as a bundled RPS with an in-state consumption requirement demands that some out-of-state renewable generators pay extra to interconnect to the grid and access the renewable electricity market.²¹⁰ Considering that the *C & A Carbone* majority never reached the benefits in earnest and considering the similarity between garbage-flow ordinances and a bundled RPS, the Supreme Court would not hesitate to invalidate a bundled RPS requiring in-state interconnection. This conclusion, however, still leaves the door open for an argument based on *Maine v. Taylor* to salvage the RPS.

Because the outcome of the Court's decision would depend less on the language of the statute and more on the Court's opinion as to whether a renewable electricity generator can sufficiently demonstrate that its product will be consumed within the enacting state, a statute characterized in practice by in-state consumption could survive. The structure of the grid may indicate that no less discriminatory means exist. Texas and New York are examples of such states. Their retail power operates under a state-based, rather than regional, ISO grid.²¹¹ Thus, Texas could demonstrate that renewable electricity delivered into the Texas grid reaches in-state customers because it cannot flow to any other state.²¹² Also the structure of a state-based grid indicates that in-state delivery is the only way to guarantee that this will occur.²¹³ As this satisfies the same factors as in *Maine v. Taylor*, Texas would satisfy its burden of overcoming the presumption of per se invalidity.

208. *Id.* at 393.

209. *See id.* at 391 (describing the ordinance as “just one more instance of local processing requirements that we long have held invalid”).

210. *See* RADER & HEMPLING, *supra* note 23, at A-2 (discussing how the interconnection requirement in the Texas RPS might mean that one generator in Oklahoma pays more for access to the grid than another Oklahoma generator that was already connected, despite providing the state with disparate levels of environmental benefits).

211. *See infra* Parts IV.B.1, IV.B.2 (discussing the structure of these state grids and the constitutional arguments for allowing these in-state consumption RPSes to stand).

212. RADER & HEMPLING, *supra* note 23, at A-2.

213. *Id.*

3. In-State Sales Requirements: Constitutional, but Useless in an RPS

While an in-state sales requirement does not discriminate facially, “it fails to assure that the state will receive benefits.”²¹⁴ In-state sales requirements allow a bundled RPS to avoid per se scrutiny because none of the language in the RPS would involve location.²¹⁵ Rather, “any generator, regardless of its location, that can establish a contract-path to the enacting state would be eligible.”²¹⁶ But a contract path does not always reflect the path of electricity. In most cases, an extremely distant renewable generator cannot offer many environmental benefits to a state without delivering electricity to the state and replacing some of the nonrenewable flow.²¹⁷ While the Supreme Court would not invalidate an in-state sales requirement under per se analysis, the state would derive few environmental benefits from this requirement.²¹⁸ Thus, a state would not likely enact such a limit.

Of the three options a state faces when crafting state-based limits for RPS eligibility, the Supreme Court will invalidate location-based requirements, will likely invalidate in-state consumption except in a close-call case such as the Texas RPS, and will uphold in-state sales requirements that do not offer any environmental benefits. Since none of these three options provide both a guarantee of benefit accrual and constitutionality, states should set regional limits instead.

C. Regional Limits

Since most state-based RPS limits will trigger per se scrutiny in a dormant Commerce Clause challenge, states must look to a different set of limits to guarantee that environmental benefits accrue in-state. To overcome one of the main problems with state limits, regulators must show that environmental benefits accrue regionally.²¹⁹ Because a regional-location limitation still discriminates against all the generators outside a region, regulators must disguise regional limitations as limitations based on

214. *Id.* at A-6.

215. *See id.* at A-7 (“Although the statute might appear to discriminate against out-of-state consumers in that only in-state customers can purchase the power, its constitutionality is unaffected.”).

216. *Id.*

217. *Id.*

218. *Id.*

219. *See* RADER & HEMPLING, *supra* note 23, at 34–35 (demonstrating the ecological rationality of a regional-location requirement). *See generally* Eisen, *supra* note 95 (arguing that because electricity is organized on a regional level, regulations and laws should also be organized by region); Kirsten H. Engel, *Mitigating Global Climate Change in the United States: A Regional Approach*, 14 N.Y.U. ENVTL. L.J. 54 (2005) (arguing that a regional approach to climate change will be more efficient and effective than a state-by-state approach).

a renewable generator's ability to deliver benefits to the state.²²⁰ A bundled RPS will satisfy this standard when eligibility is based on a renewable generator's ability to deliver benefits, in the form of electricity, into an ISO grid. This provides states with a reasonable proxy for demonstrating that the renewable electricity will be consumed in-state and that the renewable electricity will displace nonrenewable electricity.²²¹ Rader and Hempling argue that such a regulation will not only avoid per se scrutiny, but also a dormant Commerce Clause challenge altogether.²²² "Some have even suggested converting the existing patchwork of state renewable portfolio standards to a smaller number of 'regional portfolio standards.'"²²³ As with state limitations, REC-based RPS requirements contingent upon the in-region location of a generator will trigger per se scrutiny and the Supreme Court will invalidate them.

1. Environmental Benefits Accrue Regionally

Scholars Nancy Rader and Scott Hempling argue that environmental benefits accrue regionally.²²⁴ They argue that the characteristics of the nonrenewable resources that an RPS replaces will determine whether the environmental benefits of the RPS, like cleaner air, water, and land, reach the citizens of a given state.²²⁵ Rader and Hempling envision a calculation of the resources displaced due to a retail utility's purchases of bundled renewable electricity instead of nonrenewable electricity.²²⁶ They include both in-state and out-of-state renewable generators in this calculation.²²⁷ This "cost-benefit analysis" will measure, on some level, the net improvement in the state's environment.²²⁸ Rader and Hempling provide an example of this analysis:

220. See RADER & HEMPLING, *supra* note 23, at A-3 (arguing that in-state benefit delivery will operate as a regional limit and survive a facial discrimination challenge).

221. *Id.*

222. *Id.* at A-5.

223. Eisen, *supra* note 95, at 312–13.

224. See RADER & HEMPLING, *supra* note 23, at 34 (demonstrating the ecological rationality of a regional-location requirement).

225. *Id.*

226. See *id.* ("A state's cost-benefit analysis therefore must determine what resources will be displaced by *in-state and out-of-state renewables* (in either case, the displaced resources could well be located outside the state), and whether that displacement will cause net improvements in the state's airsheds, land, and waterways.").

227. *Id.*

228. *Id.*

A renewable energy plant built in a small New England state to serve the state's RPS requirement may cause reduced production at a coal plant in Ohio, thereby reducing air emissions that would have drifted into the airshed over the New England state. The same result would be achieved if the plant were built next door to the New England state, suggesting a policy basis for a regional, rather than an in-state, location requirement.²²⁹

Regions, they argue, act as ecological systems in a similar way to airsheds, and will logically benefit from the displacement of nonrenewable energy production by renewable energy production. Thus, Rader and Hempling argue that, from an ecological perspective, a state can justify a regional, rather than in-state, limitation for RPS generator applicability requirements.

2. Bundled Regional Limits Disguised as Eligibility Based on In-State Benefit Delivery

Rader and Hempling also make a strong argument that states should employ regional limitations disguised as eligibility requirements based upon renewable generators' ability to produce benefits for the state, rather than physical location.²³⁰ They list benefits an entity could argue that it achieves for the state including displacement of output from generation contributing to pollution, stabilization of the market through resource diversity, and advancement of new technologies.²³¹ Since a generator would have to deliver electricity only into the region and not the state, it could overcome the impossibility of trying to figure out if the electricity is consumed in-state.²³² Instead, the electricity will benefit the state because it "enact[s] state flow from what it displaces or contributes."²³³

Rader and Hempling also argue that this method will avoid per se attack. "Although such a policy clearly will exclude distant generators, the exclusion will occur not because those generators are located in another state, but because their physical circumstances preclude benefits to the state."²³⁴ They further argue that this type of RPS would escape dormant

229. *Id.* "Carbon reductions, of course, reduce the global environmental risk associated with climate change and therefore renewable energy facilities will benefit the state (along with all other states) regardless of their location." *Id.*

230. *See id.* at A-2 to A-3 (providing an example of how the physical location of a generator affects cost).

231. *Id.* at A-3.

232. *See id.* ("This approach . . . avoids the need for contract-path verification (unlike in-state consumption or in-state sales requirements . . .).")

233. *Id.*

234. *Id.*

Commerce Clause attack altogether because it does not harm out-of-state entities but rather makes the region surrounding the enacting state “a more attractive market for renewable energy generation in the same way as would a tax break offered to those who sell to or locate within the state.”²³⁵ Thus, so long as a state makes the test for eligibility fact-based or sets up a proxy for measuring whether the renewable generator provides benefits to the state, the RPS will not only guarantee that the benefits of renewable energy accrue in-state but also avoid per se analysis altogether.²³⁶

3. Bundled RPS as Less Discriminatory than REC-Based RPS

Although Rader and Hempling do not discuss the differences between an REC-based RPS and a bundled RPS, they implicitly argue that RECs are more discriminatory. “[T]he need to document contract paths would eliminate one of the significant benefits of a tradable credit system: that tradable credits do not require the physical or contractual delivery of power to particular consumers.”²³⁷ Expanding upon their statement, RECs should eliminate the need for a bundled RPS, except that a purely REC-based RPS cannot guarantee the same benefits. Thus, an REC-based RPS must discriminate based only on location to guarantee the same benefits. This renders it more discriminatory than a bundled RPS.

As an illustration, Rader and Hempling contrast two types of regional limits for an RPS: a regional-location requirement and a regional-delivery requirement. For the location-based example, they imagine a Vermont RPS that limits eligibility to the six states comprising the New England region.²³⁸ The Supreme Court, they argue, would invalidate such a regulation under per se analysis because it discriminates, on its face, against the forty-four non-New England states.²³⁹ As a contrasting example of the benefit-based limitation that will withstand constitutional scrutiny, they offer Maine’s RPS, “which restricts RPS eligibility to entities which ‘generate power that can physically be delivered to . . . the New England Power Pool.’”²⁴⁰ In effect, both RPSes limit eligibility to renewable producers in the New England region. The only difference between them is that Maine requires the *physical delivery* of renewable electricity into the

235. *Id.* at A-4.

236. As an example of a model statute, Rader and Hempling offer the Maine RPS, “which restricts RPS eligibility to entities which ‘generate power that can physically be delivered to . . . the New England Power Pool.’” *Id.* at A-3 (quoting ME. REV. STAT. ANN. tit. 35, § 3210 (2003)).

237. *Id.* at A-7.

238. *Id.* at A-1.

239. *Id.*

240. *Id.* at A-3 (citing ME. REV. STAT. ANN. tit. 35, § 3210 (2003)).

New England Power Pool via interconnection, whereas the hypothetical Vermont statute requires in-region *location*.

The REC-based RPS has a fatal flaw: it must discriminate based on location in order to accrue environmental benefits in-state. Rader and Hempling deem it *per se* invalid.²⁴¹ In comparison, bundled RECs deliver environmental benefits without discriminating based on location. Thus, Rader and Hempling argue that an REC-based RPS with a regional location limit is *more* discriminatory, not less, than a bundled RPS based on benefit delivery.

4. The Odd Electron Out: REC-Based RPSes with a Geographic Limit as Per Se Invalid

Since the Supreme Court would find a purely REC-based RPS with a regional-location-eligibility requirement more discriminatory than a bundled RPS, purely REC-based RPSes are unconstitutional. Although one of the main advantages of having an REC is to render interconnection unnecessary, the dormant Commerce Clause requires renewable generators to interconnect. This renders RECs useless except in two situations. First, a state might enact an REC-based RPS with no location requirements. This, however, seems unlikely since generators in any other state could qualify and the enacting state would not be able to guarantee the accrual of the environmental benefits in-state. Second, a state may use RECs to ease the movement between entities within the regional ISO, provided they have interconnected to the system. Otherwise, RECs with any location-based requirement will fail under dormant Commerce Clause analysis.

IV. EXISTING RPSes UNDER DORMANT COMMERCE CLAUSE CHALLENGE

By way of example, this Note applies the dormant Commerce Clause to a handful of existing, state-enacted, RPS generator applicability requirements. Those states with RPSes identified as deficient will hopefully adjust their eligibility criteria and avoid a dormant Commerce Clause challenge.²⁴² In addition, officials in those states whose RPSes are not mentioned can compare their statutes with these examples to determine what, if any, deficiencies their respective RPSes contain.

241. *Id.* at A-1.

242. Primarily, this Note will concern itself with avoiding a *per se* challenge, as do most states. Considering the Court's reluctance to apply *Pike*, see Part II.A.2.b, and the work and capital required to litigate a claim under *Pike*, *per se* scrutiny poses a much bigger threat to state-enacted RPSes.

The chosen statutes represent a cross-section of different types of potentially problematic RPSes, based on either a state-based limitation or a region-based limitation. For state-based RPSes, the examples show that preferential treatment based on statehood will cause the Supreme Court to strike down a statute; whereas, for two unique situations in Texas and New York, in-state delivery requirements may survive constitutional scrutiny. For the region-based RPS examples, requirements based on delivery to a regional ISO fare better than those based on in-region location. As a general theme, the Court will prefer eligibility based on the delivery of benefits over limitations based on geographic location.

A. RPS: State Limitations

As scholars Nancy Rader and Scott Hempling discuss,²⁴³ the Supreme Court will deem most in-state-location requirements *per se* invalid.²⁴⁴ No state limits eligibility exclusively to in-state production any longer, but such restrictions existed previously. For instance, in 2001, Nevada repealed language limiting REC and generator eligibility to “energy resources *in this state*.”²⁴⁵ Many current limitations are more sophisticated but equally susceptible to dormant Commerce Clause attack. Any time a state’s RPS-eligibility requirements contain an explicit preference for renewable electricity production occurring in-state, as does the New Mexico RPS, the Supreme Court will find the provision facially discriminatory and strike it down. Further, when a state designates that electricity produced in-state is more valuable than that produced out-of-state, as does Arizona, the Court will strike down the provision as *per se* invalid.

Two states require a more complex analysis from the Supreme Court. Both Texas and New York depend on a state-based ISO system for retail electricity distribution. Both states’ RPSes require interconnection or delivery into the state-based ISO as a prerequisite to generator eligibility. While the Supreme Court’s evaluation may depend on each Justice’s understanding of the ISO structure, both RPSes should survive constitutional scrutiny because they appear to focus on benefit delivery as opposed to geographic origin.

243. The analysis in this Part will again rely heavily on the treatise by Rader and Hempling but only as a guide to application. The only two RPSes that Rader and Hempling comment on are Maine and Texas. RADER & HEMPLING, *supra* note 23, app. A.

244. *See id.* at A-1 to A-9 (discussing the various options for state-based limitations and rejecting all of them).

245. NEV. REV. STAT. § 704.989(7) (2000) (emphasis added), *repealed by* 2001 NEV. STAT., ch. 16, § 32.

1. A Stated Preference: New Mexico

The Supreme Court would invalidate the RPS of New Mexico under a dormant Commerce Clause challenge. The Court labels statutes containing language that treats entities differently based on location, particularly state location, as facially discriminatory and thus per se invalid.²⁴⁶ Although the statute that created New Mexico's RPS contains no discriminatory language, the state's utility regulations do. Because of this language, the Court will label the regulation facially discriminatory and invalidate it.

In 2004, the New Mexico legislature established an RPS when it passed the Renewable Energy Act.²⁴⁷ For electricity sold to consumers in New Mexico, the statute requires that retail utilities derive "no less than five percent" from renewable resources in 2006.²⁴⁸ After 2006, the amount of renewable electricity the state requires of individual utilities will increase by one percent each year until it reaches ten percent in 2011.²⁴⁹ The statute does not address the eligibility requirements for renewable facilities. Instead, the New Mexico Public Utilities Regulation Commission (PURC) promulgated the requirements for renewable energy certification.²⁵⁰

The certification requirements set forth by the New Mexico PURC state a preference for renewable electricity produced in New Mexico. Although the regulation sets out a comprehensive list of benefits, including environmental benefits and resource diversity,²⁵¹ the eligibility requirements render the provision vulnerable to a per se attack. The language of the relevant provision starts out neutrally when describing the factors utilities should examine when deciding which renewable producers to buy from—the code lists reliability, flexibility, and cost.²⁵² In the next sentence, however, the Commission dooms the regulation to per se invalidity: "Other factors being equal, preference shall be given to

246. See *supra* note 120 and accompanying text.

247. Renewable Energy Act, 2004 N.M. Laws 65 (codified as N.M. STAT. ANN. § 62-16-4 (LexisNexis Supp. 2004)).

248. N.M. STAT. ANN. § 62-16-4 (A)(1) (LexisNexis Supp. 2004).

249. *Id.* § 62-16-4 (A)(2).

250. N.M. CODE R. § 17.9.572 (Weil 2004).

251. See *id.* § 17.9.572.6 ("The purpose of this rule is to establish a process for promoting the use and development of renewable energy in New Mexico to assure that electric consumers obtain adequate and reliable electric services at just and reasonable rates. Encouraging the use of renewable resources will provide diversity and so strengthen the stability of electricity supply. It will also enhance the health and welfare of the state by preserving the environment, stimulating economic development, and conserving water and non-renewable resources, while reducing the state's reliance on fossil fuel resources and vulnerability to market fluctuations.").

252. *Id.* § 17.9.572.10 (A)(1).

renewable energy generated in New Mexico.”²⁵³ This is a clear statement of preferential treatment based on location within the state.

The Supreme Court would deem this provision per se invalid because the stated preference renders the language facially discriminatory.²⁵⁴ Since the in-state accrual of benefits has almost no connection with in-state generation, New Mexico would not dissuade the Court from this action.²⁵⁵

2. RECs Based on Location: Arizona’s Discriminatory Math

The Supreme Court would invalidate the Arizona RPS under a dormant Commerce Clause challenge. The Court labels regulations that contain language treating entities differently based on location, particularly state location, as facially discriminatory and thus per se invalid.²⁵⁶ Although the language of the RPS does not discriminate as obviously as New Mexico’s RPS, the Arizona RPS does contain discriminatory language. Because the Arizona RPS generator applicability requirements contain language treating renewable electricity generated within Arizona as more valuable than renewable electricity produced outside the state, the Court will label the provision facially discriminatory and deem it per se invalid.

The Arizona Corporation Commission promulgated an Environmental Portfolio Standard that operates as an RPS.²⁵⁷ It requires Arizona utilities to buy relatively small but graduated amounts of renewable energy.²⁵⁸ A retailer will want to obtain as much of the renewable electricity needed to satisfy the RPS requirement at the lowest cost possible.

The Arizona RPS encourages the purchase of in-state renewable production of solar energy to the detriment of out-of-state producers in two ways. First, the Commission gives “Load-Serving Entities,” or electricity providers, an incentive to buy RECs from in-state solar facilities via a “Solar Economic Development Extra Credit Multiplier[.]”²⁵⁹ The multiplier gives solar electric power plants “up to a .5 extra credit multiplier related to the manufacturing and installation content that comes from Arizona.”²⁶⁰ This means that if an in-state and out-of-state generator each

253. *Id.*

254. *See supra* note 120 and accompanying text.

255. *See supra* notes 144–47 and accompanying text.

256. *See supra* note 120 and accompanying text.

257. ARIZ. ADMIN. CODE § R14-2-1618(A) (2004) (“Upon the effective implementation of a Commission-approved Environmental Portfolio Standard”).

258. *Id.* § R14-2-1618(B)(1). The schedule requires only 0.2% for 2001, 0.4% for 2002, 0.6% for 2003, 0.8% for 2004, 1.0% for 2005, 1.05% for 2006, and 1.1% for 2007–2012. *Id.*

259. *Id.* § R14-2-1618(C)(2).

260. *Id.* § R14-2-1618 (C)(2)(b). “The percentage of Arizona content of the total installed plant cost shall be multiplied by .5 to determine the appropriate extra credit multiplier. So, for instance, if a

produced one unit of solar electricity, the unit produced in Arizona would have an actual value of one and half units to an electricity retailer attempting to comply with the RPS. This multiplier gives a significant advantage to solar energy produced in-state as compared to solar energy produced out-of-state.

Second, Arizona gives utilities an extra incentive to own, or invest in, solar facilities located in Arizona by bestowing a partial credit against the portfolio requirement for such actions.²⁶¹ The Arizona RPS already gives utilities an incentive to invest in solar energy by requiring that half of any utility's portfolio requirement consist of solar energy.²⁶² This already guarantees a market for solar energy. Arizona found it necessary, however, to further incentivize solar energy production in the state by providing an extra credit against the RPS to utilities that fund in-state, solar energy production.²⁶³ The investment provision allows a utility to receive REC value for producing solar energy in-state but not out-of-state.

Considering the combined advantage these two provisions offer in-state renewable producers, and the ensuing disadvantages to out-of-state production, the Supreme Court would likely invalidate them under per se analysis. Since the multiplier guarantees that a unit (kilowatt-hour) produced in Arizona has more value to a retail electricity utility than a unit of solar electricity produced outside the state based solely on state origin, the Court would find that the Arizona RPS discriminates on its face and invalidate it.²⁶⁴ Arizona could not argue that no less discriminatory means exist because the statute could require interconnection or simply continue to make solar energy more valuable in the REC scheme without granting extra credit based on in-state location.²⁶⁵ Under a dormant Commerce Clause challenge, the Court would invalidate the Arizona RPS.

solar installation included 80% Arizona content, the resulting extra credit multiplier would be .4 (which is $.8 \times .5$)." *Id.* Presumably, when tallying the RECs that a utility offers to satisfy the percentage requirement, the Commissioner would multiply the total by 0.5 and then add the resulting amount to the original nonextra credit total. This gives solar-producing facilities located in Arizona a windfall advantage over out-of-state facilities because the in-state RECs are worth 1.5 times the value of an out-of-state RECs.

261. *Id.* § R14-2-1618(I).

262. *Id.* § R14-2-1618(B)(3).

263. *See id.* § R14-2-1618(I) ("The credit will be equal to the amount of the nameplate capacity of the solar electric generators produced in Arizona and sold in a calendar year times 2,190 hours (approximating a 25% capacity factor).").

264. *See supra* note 120 and accompanying text.

265. *See supra* notes 144–47 and accompanying text.

B. The Borderline of State Limitations: Texas and New York

The eligibility requirements of two states exemplify the most difficult type of RPS for the Supreme Court to evaluate in a potential dormant Commerce Clause challenge. The RPSes of both Texas and New York include eligibility criteria that require interconnection to an ISO that is based on state, rather than regional, boundaries. In their basic form, these two RPSes require in-state consumption, as discussed by Rader and Hempling,²⁶⁶ as a prerequisite for RPS eligibility and, under challenge, could test the bounds of the Supreme Court's dormant Commerce Clause jurisprudence. In all probability the Texas RPS would narrowly survive the Court's scrutiny despite containing only a single provision requiring interconnection. New York's RPS, however, contains not only an interconnection requirement, but also other provisions that guarantee the in-state delivery of benefits. Consequently, the New York RPS stands a greater chance of surviving constitutional scrutiny than does the Texas RPS.

1. In-State Consumption—Texas

The in-state consumption requirement in the Texas RPS poses great difficulty for the Supreme Court in a dormant Commerce Clause challenge because it forces two cases at opposite ends of the jurisprudential spectrum to collide: *C & A Carbone, Inc. v. Town of Clarkstown* and *Maine v. Taylor*.²⁶⁷ An in-state consumption requirement triggers *C & A Carbone* because although it does not discriminate on its face, the extra costs that out-of-state renewable producers will incur to interconnect to the Texas grid are based solely on state lines and not the ability to deliver benefits.²⁶⁸ Under *C & A Carbone*, this constitutes discrimination.²⁶⁹ To keep the Court from invalidating the provision, Texas would have the burden of proving that no other means of benefit accrual exist.²⁷⁰ Under *Maine v. Taylor*, Texas could narrowly prove this because its size requires the state to act as a region with its own ISO.²⁷¹ The Supreme Court should uphold

266. RADER & HEMPLING, *supra* note 23, at A-4 to A-5.

267. *See supra* Part III.B.2 (discussing in-state consumption requirements).

268. *See supra* Part III.B.2; *see also* RADER & HEMPLING, *supra* note 23, at A-2 (discussing the burdens that renewable generators in Oklahoma will face in trying to access the renewable market in Texas).

269. *See supra* notes 169–76 and accompanying text.

270. *Id.*

271. *See* RADER & HEMPLING, *supra* note 23, at A-2 (“[The Texas] proposal takes an analytical approach similar to the Maine statute, in that the eligibility is limited to generators that deliver their power to a location relatively near consumers, ensuring that the renewable generation displaces non-renewable generation that otherwise would have operated to serve those consumers.”). “The Texas

the requirement.

The unique arrangement of the regional transmission organization (RTO) in Texas, and the Supreme Court's level of comprehension regarding this arrangement, will greatly influence the outcome of a dormant Commerce Clause challenge to the Texas RPS. Most RTOs involve three or four states sharing interconnected electricity at the same rate and cost of interconnection.²⁷² Due to its size, Texas has its own RTO that it shares with no other state, the Electric Reliability Council of Texas (ERCOT).²⁷³ ERCOT covers seventy-five percent of Texas geographically and eighty-five percent of the state's electricity consumers.²⁷⁴ This means that most of the energy physically metered and verified in Texas has to be produced in Texas. In fact, of the almost nine hundred kilowatt-hours that came online in Texas in 2000, most of it was generated in a three-county area.²⁷⁵

Texas also has a unique RPS. Unlike other states, Texas does not base RPS compliance on a utility's required purchase of a set *percentage* of renewable electricity. Instead, the state mandates that a specific *volume* of "generating capacity from renewable energy technologies will have been installed in this state."²⁷⁶ The statute was further designed to "encourage the development, construction, and operation of new renewable energy projects at those sites *in this state*."²⁷⁷ The administrative code repeats this language before setting forth the guidelines for an REC trading program.²⁷⁸ While this language explicitly favors in-state renewable generation and may cause some Justices to find the statute discriminatory, a constitutional challenge would properly focus on the state's eligibility requirements.

The eligibility requirements set forth in the administrative code facilitate the delivery of benefits in-state. The code sets forth the following interconnection requirement: "The output of the facility must be readily capable of being physically metered and verified in Texas by the program administrator."²⁷⁹ The structure of ERCOT guarantees that the renewable electricity will be consumed in the state.²⁸⁰ According to Rader and

approach is thus best viewed as a *means of achieving* the goal of restricting RPS benefits to generators that will provide benefits to Texas by requiring, indirectly, that they be located in or near Texas." *Id.*

272. KEVIN R. PORTER, EXETER ASSOCIATES, INC., NATIONAL RENEWABLE ENERGY LABORATORY, THE IMPLICATIONS OF REGIONAL TRANSMISSION ORGANIZATION DESIGN FOR RENEWABLE ENERGY TECHNOLOGIES 1–5 (2002), available at <http://digbig.com/4sbba>.

273. *Id.* at 12–14. ERCOT is not under the jurisdiction of FERC. *Id.*

274. *Id.* at 12–13.

275. *Id.* at 14–15.

276. TEX. UTIL. CODE ANN. § 39.904 (a) (Vernon 2004–2005).

277. *Id.* § 39.904(c)(2)(B) (emphasis added).

278. 16 TEX. ADMIN. CODE § 25.173(a) (2004).

279. *Id.* § 25.173(e)(4).

280. See *supra* Part III.B.2.

Hempling, unlike most in-state consumption requirements, this structure might withstand constitutional scrutiny.²⁸¹ Other factors, however, may lead the Court to question the validity of the statute.

Rader and Hempling provide two examples that illustrate how the Supreme Court might find that the Texas RPS discriminates based on state origin. First, Texas derives the benefits of clean energy from an out-of-state generator based on geographic proximity, not interconnection:

Two identical renewable generators located in the same Oklahoma city could provide the same benefits to Texas (e.g., in terms of displacement and diversity). If one of them invested in an interconnection with Texas and the other didn't, the former would not necessarily provide more benefits to Texas, yet would have to pay the extra interconnection cost.²⁸²

Thus, the rule guarantees that some out-of-state generators will suffer economic discrimination. Second, and more importantly, the Texas state line would likely become an economic boundary:

[C]onsider two generators located very close to one another, one inside the Texas border and the other located just over the border. If the two generators are nearly in the same location, the one outside Texas would not necessarily provide fewer benefits to Texas than a renewable generator located just inside the Texas border, yet the non-Texas generator would have to bear the cost of building a special dedicated interconnection to allow for direct, in-Texas metering of its output.²⁸³

In an attempt to access the Texas market, the out-of-state generator would not face a greater economic burden because of its ability to provide benefits; rather, it would suffer only because of its location outside of Texas.²⁸⁴

Many members of the Court would view this as discrimination based on geographic location and apply the per se test. Indeed, the majority in *C & A Carbone* cited the financial barriers erected in the Clarkstown ordinance as inhibiting market access based on a party's out-of-state origin

281. See *supra* Part III.B.2; see also RADER & HEMPLING, *supra* note 23, at A-2 (“Renewable facilities that deliver electricity into a transmission system where it is commingled with electricity from non-renewable resources could not be verified as delivered to Texas customers.”).

282. *Id.*

283. *Id.*

284. See *id.* (“The non-Texas generator would have to bear a cost not imposed on the in-Texas generator, not because it produces fewer benefits [but] because it was located outside the state.”).

as a main reason for invalidating the regulation at issue.²⁸⁵ The Supreme Court should not, however, invalidate the Texas RPS.

The Supreme Court's holding in *Maine v. Taylor* also should protect the validity of the Texas RPS under a dormant Commerce Clause challenge. In *Maine v. Taylor*, the Court allowed the state of Maine to ban the import of baitfish because the ban legitimately guaranteed the survival of the State's baitfish population and because no less discriminatory means existed that would provide adequate protection.²⁸⁶ Because of the unique structure of ERCOT, the metering requirement in the Texas RPS is the only method whereby the state can guarantee that renewable electricity will reach Texas consumers. In addition, RECs do not constitute a less discriminatory alternative. An REC-based RPS cannot accrue benefits as well as a bundled RPS without discriminating more explicitly than an interconnection requirement ever would.²⁸⁷ Because of the unique structure of ERCOT, the Court should apply *Maine v. Taylor* and uphold the Texas RPS under a dormant Commerce Clause challenge.

2. New York

The New York RPS stands a better chance of surviving a dormant Commerce Clause challenge than does the Texas RPS. For the same reasons as Texas's ISO, New York's state-oriented, rather than regionally oriented, ISO presents a unique situation compared to most other grids.²⁸⁸ The RPS requires that renewable electricity be physically delivered and sold into the New York Independent System Operator (NYISO) to displace nonrenewable electricity, and the RPS provides a reasonable guarantee that the renewable electricity will reach in-state consumers.²⁸⁹ Under Rader and Hempling's analysis, this constitutes a reasonable "means of achieving" that the benefits will accrue in-state without directly discriminating based on geography,²⁹⁰ and the New York RPS should withstand constitutional scrutiny. In addition, the New York RPS contains further guarantees that the benefits of renewable electricity will accrue in-state regardless of the geographic origin of the producer.

285. See *supra* notes 169–76 and accompanying text.

286. See *supra* notes 157–60 and accompanying text.

287. See *supra* Part III.C.3.

288. New York Indep. Sys. Operator, et al., 96 Fed. Energy Reg. Comm'n Rep. ¶ 61,059 (2001); New York Independent System Operator, Independent System Operator Agreement, (Dec. 19, 1997), available at <http://digbig.com/4rycn>.

289. See NY RPS, *supra* note 6, at 58–64. The Commission specifically rejected a regional location requirement. *Id.* at 63–64.

290. RADER & HEMPLING, *supra* note 23, at A-2.

On September 24, 2004, the New York Public Service Commission published an order establishing an RPS.²⁹¹ Following extensive debate, the Commission adopted a delivery requirement for generators seeking to gain access to the New York renewable market.²⁹² The order does not base eligibility on location, but rather requires contractual delivery of renewable electricity to consumers in New York State as well as electronic delivery into the NYISO.²⁹³ Thus, the provision bases eligibility on the guarantee of benefits and does not discriminate based on location.²⁹⁴ It also provides various procedural safeguards to guarantee that benefits will accrue in-state.²⁹⁵ For the same reasons the Supreme Court should uphold the Texas RPS under a dormant Commerce Clause challenge, the Court should also uphold the New York RPS. Because the New York RPS depends on a state, not regional, ISO, situations may arise where the state border acts as a burden to a producer's access to the renewable electricity market.²⁹⁶ New York can demonstrate that the unique structure of the ISO requires in-state delivery in order to satisfy the two requirements set forth by the Court in *Maine v. Taylor*.²⁹⁷ Assuming "that the contract paths reasonably resemble physical paths," New York only need demonstrate a "reasonable likelihood that a substantial portion of the output actually flow[s] into and [i]s consumed by the state."²⁹⁸ By requiring that the generators demonstrate the delivery of the renewable energy to the New York ISO, the New York RPS satisfies this standard.²⁹⁹ Indeed the Commission made these same arguments to opposing parties in its order.³⁰⁰ Since a regional REC trading system does not offer a less discriminatory alternative of guaranteeing in-state benefits,³⁰¹ the Supreme Court should apply *Maine v. Taylor* to uphold

291. NY RPS, *supra* note 6.

292. *Id.* at 61. The Commission considered and rejected, for the time being, a regional REC trading system that would allow entities in NEPOOL and other regional ISOs to trade RECs back and forth. *Id.* at 56–57.

293. *Id.* app. C, at 1.

294. The Commission explicitly considered and rejected an in-region-location requirement. *Id.* at 63–64.

295. *See id.* at 61 (listing devices such as monthly matching as ways to guarantee the in-state accrual of environmental and resource diversity benefits without an overly burdensome cost to the state).

296. *See supra* notes 282–84 and accompanying text (describing one such situation).

297. *See supra* notes 157–60 and accompanying text (describing the *Maine* requirements).

298. RADER & HEMPLING, *supra* note 23, at A-5.

299. *Id.*

300. *See* NY RPS, *supra* note 6, at 63 ("We have reviewed the request by some that, if the delivery requirement is adopted, it be imposed on a regional basis. Necessary compatible attribute accounting and tracking systems are not in place throughout the region from which New York draws its electricity. Adoption of an RPS in the New York market will position us to work with other jurisdictions to achieve regional compatibility in the future.").

301. *See supra* Part III.C.3.

the New York RPS under a dormant Commerce Clause challenge.

The New York's RPS, however, is less susceptible to dormant Commerce Clause challenge than the Texas RPS. The New York State Commission included specific provisions to further protect against a per se challenge by making eligibility determinations more dependent on a case-by-case analysis. For example, the delivery requirements apply equally to both out-of-state and in-state generators.³⁰² The Commission also enacted a "monthly matching" requirement to stop utilities from stalling on fulfilling the RPS for long periods of time when buying electricity on the spot market.³⁰³ The Commission barred "physical" bilateral energy contracts because these would not allow the Commission to verify environmental benefits under current state law.³⁰⁴ In short, the Commission has tailored the requirements to that which is necessary to guarantee that the benefits accrue in-state. Thus, the New York RPS contains more provisions that guarantee the in-state accrual of benefits than the Texas RPS and is therefore less likely to trigger per se analysis under a dormant Commerce Clause challenge.³⁰⁵

C. Regional Limitations

Numerous states base RPS-eligibility requirements, either implicitly or explicitly, on the structure of a regional ISO, which typically consists of a handful of states. The proximity of these neighboring states helps to overcome the fact that the environmental attributes do not obey political boundaries, and the benefits are more likely to have a measurable regional effect rather than just affecting one state's environment.³⁰⁶ States should not, however, view this as a license to condition eligibility based explicitly on in-region location because such a provision will exclude over forty other

302. See NY RPS, *supra* note 6, at 62–63 (“The RPS promotes interstate commerce by allowing imports on the same terms as electricity generated within the State. The delivery requirement applies to domestic generation as well as imports. Therefore, it is equivalently applied to in-State and out-of-State renewable generation sources and imposes only a minimal, if any burden on commerce.”); accord RADER & HEMPLING, *supra* note 23, at A-6 (“[I]t is best if the obligation to make this showing falls on every generator, not only out-of-state generators.”).

303. NY RPS, *supra* note 6, at 61, app. C, at 1.

304. *Id.* at 63, app. C, at 1.

305. This also makes the provision more politically acceptable. See *id.* at 61 (“Since we are likely mandating an increase in costs, it is important that we structure the RPS in a manner that maximizes the benefits that can accrue to New York from an RPS, consistent with all applicable laws and treaties. . . . [T]he requirement will also help ensure that New York State ratepayers enjoy the benefits from the costs they will incur to support the RPS program and its objectives. . . . [F]oregoing a delivery requirement would significantly raise the expected cost of an RPS for ratepayers because of the reduction in the offsetting impacts on wholesale electric prices.”).

306. RADER & HEMPLING, *supra* note 23, at 35–36, A-3.

states.³⁰⁷ Instead, states should explicitly condition eligibility on whether generators deliver benefits to the state and thereby implicitly limit eligibility to the region.³⁰⁸ This allows the state to achieve its various RPS goals and constitutes a legitimate effort “to gain benefits in return for the RPS cost it incurs.”³⁰⁹ It also raises fewer dormant Commerce Clause issues.³¹⁰

Several states, including Maine, New Jersey, and Rhode Island, illustrate this principle by conditioning eligibility not on location but on a generator’s ability to deliver electricity into the regional ISO. While these schemes do not guarantee protection from a dormant Commerce Clause attack, they offer the Court less reason to undertake *per se* analysis. Other states, such as Maryland, attempt to base eligibility requirements on benefits delivery but commit the fatal error of including the word “location.”

1. Regional Delivery as a Prerequisite to REC Eligibility

RPSes that require delivery to a regional ISO in order to become eligible for a state’s RECs will survive a dormant Commerce Clause challenge. As Rader and Hempling note, a regional ISO provides a reasonable proxy for in-state electricity consumption and the in-state accrual of environmental benefits.³¹¹ By requiring delivery into the regional ISO, states utilize a reasonable “means of achieving” in-state benefits without setting limits for REC eligibility based on location.³¹² Since eligibility is based on benefit delivery and not location, these statutes do not discriminate and should survive a dormant Commerce Clause challenge.³¹³ In this way, a state can capture the benefits of REC trading schemes—namely avoiding the cost of further interconnection between all utilities by separating the renewable attribute from the electricity.³¹⁴

A number of states utilize similar eligibility requirements. As Rader and Hempling point out, the Maine RPS exemplifies REC-eligibility requirements based on delivery of benefits rather than location because it requires producers to deliver electricity into the New England Power

307. *See id.* at A-1 (“A state law that makes eligible generation located in a list of six states still discriminates against the remaining 44 states.”).

308. *Id.* at A-3.

309. *Id.*

310. *Id.*

311. *Id.*

312. *Id.* at A-2.

313. *Id.* at A-3.

314. Haddad & Jefferiss, *supra* note 20.

Pool.³¹⁵ New Jersey and Rhode Island, have not only followed Maine's model, but also taken the next logical step. These RPSes require generators to deliver electricity into the regional ISO as a prerequisite for REC eligibility.

a. Maine

The five states that comprise the New England Power Pool (NEPOOL) share electricity with each other and allow other states to buy from the pool as a spot market.³¹⁶ Maine enacted its RPS statute not just for environmental benefits but also "to ensure an adequate and reliable supply of electricity for Maine residents."³¹⁷ The RPS requires each utility to maintain thirty percent of its portfolio as renewable electricity—this includes hydro power.³¹⁸ The Maine RPS limits eligibility to those renewable sources that "[g]enerate[] power that can physically be delivered to the control region . . . [of] the New England Power Pool, or its successor."³¹⁹ This method ensures that the renewable benefits will accrue in-state because if NEPOOL benefits, Maine will benefit.³²⁰ Because the Maine RPS does not discriminate on the basis of location, the Supreme Court would not apply *per se* analysis in a dormant Commerce Clause challenge. The Maine RPS, however, does not have a tradable REC system.

b. New Jersey

In contrast, the New Jersey RPS employs an REC distribution-and-trading scheme. The New Jersey RPS requires that renewable generators deliver electricity into the PJM (Pennsylvania-New Jersey-Maryland) Interconnection in order to achieve eligibility.³²¹ In this way, the New Jersey RPS functions in the same manner as the Maine requirements, with the PJM Interconnection acting as NEPOOL. The Supreme Court might distinguish the New Jersey RPS because it has a tradable REC scheme;³²²

315. RADER & HEMPLING, *supra* note 23, at A-3.

316. Bangor Hydro-Electric Co., 96 Fed. Energy Reg. Comm'n Rep. ¶ 61,063 (2001).

317. ME. REV. STAT. ANN. tit. 35-A, § 3210.3 (Supp. 2003).

318. *Id.* § 3210.3.

319. *Id.* § 3210.2(B)(1).

320. See RADER & HEMPLING, *supra* note 23, at A-3 ("The premise here is that, if the generator is able to deliver to the New England Power Pool, it is likely to be in a location where its displacement and diversity benefits can accrue to Maine.")

321. N.J. ADMIN. CODE § 14:4-8.7 (2004).

322. *Id.* § 14:4-8.8.

whereas, Maine does not. REC eligibility, however, is based on electricity delivery rather location.³²³ Because the New Jersey RPS does not base REC eligibility on location, it should survive a dormant Commerce Clause challenge.

c. Rhode Island

In January 2004, Rhode Island state legislators passed a bill creating an RPS with REC-eligibility requirements similar to New Jersey's.³²⁴ The statute conditions eligibility on delivery into NEPOOL and lists four requirements that a generator must satisfy for delivery acknowledgment.³²⁵ Like New York's RPS-eligibility requirements, these "extra" requirements strengthen Rhode Island's argument that the provision focuses on benefit delivery.³²⁶ Because the Rhode Island RPS-eligibility requirements depend on a producer's ability to deliver renewable electricity into NEPOOL rather than the producer's geographic location, the Supreme Court would not apply per se scrutiny. Thus, the Rhode Island RPS should survive a dormant Commerce Clause challenge.

323. *Id.* §§ 14:4-8.8, :4-8.9.

324. R.I. GEN. LAWS §§ 39-26-1 to 39-26-10 (2004).

325. *Id.* § 39-26-5(b)(i)-(iv). These requirements include:

- (i) A unit-specific bilateral contract for the sale and delivery of such energy into NEPOOL; and
- (ii) Confirmation from ISO-New England that the renewable energy was actually settled in the NEPOOL system; and
- (iii) Confirmation through the North American Reliability Council tagging system that the import of the energy into NEPOOL actually occurred; or
- (iv) Any such other requirements as the commission deems appropriate.

Id.

326. RADER & HEMPLING, *supra* note 23, at A-5 to A-6.

2. Maryland's Unfortunate Choice to Use the Word "Location" in an REC-Based RPS

Statutes that contain language that discriminates based on location invite per se analysis in a dormant Commerce Clause challenge and have less chance of survival.³²⁷ Since the Maryland RPS bases REC eligibility in part upon location, the statute may be deemed per se invalid. At the very least, the location based language increases the odds that a savvy litigant will challenge the statute.

Maryland's RPS focuses on location instead of delivery. Like New Jersey, Maryland is part of the PJM Interconnection.³²⁸ In 2004, Maryland enacted an RPS that divides the electricity derived from renewable resources into two tiers.³²⁹ It also requires REC-eligible generators to be *located* either: "(1) in the PJM region or in a state that is adjacent to the PJM region; or (2) outside the area described in item (1) of this subsection but in a control area that is adjacent to the PJM region, if the electricity is delivered into the PJM region."³³⁰ Although Maryland legislators attempted to fashion eligibility requirements similar to Maine's, they prefaced the entire provision with the word "located."³³¹ This indicates that the state will determine eligibility based on a producer's geographic location.

The Supreme Court would apply per se scrutiny to Maryland's RPS and invalidate it. Although Maryland avoids the mistake of treating entities differently based on out-of-state location, Maryland still focuses, to its detriment, on in-region location. Part (1) discriminates based on location outside the state or region because it limits eligibility only to those states in the PJM Interconnection or adjacent to the PJM region.³³² As Rader and Hempling note, in-region limits and adjacency limits still exclude the majority of states in the United States based purely on location.³³³

Part (2) does not alleviate this location-based discrimination. At first blush, part (2) appears to allow eligibility for generators "outside the area

327. See *supra* note 120 and accompanying text.

328. PJM, Working to Perfect the Flow of Energy, <http://www.pjm.com/index.jsp> (last visited Mar. 18, 2007).

329. MD. CODE ANN. PUB. UTIL. COS. § 7-701(1)-(m), §§ 7-704, 7-708 to 7-709 (West Supp. 2004).

330. *Id.* § 7-701(i)(1)-(2) (emphasis added).

331. *Id.* § 7-701(i).

332. *Id.* § 7-701(i)(1).

333. RADER & HEMPLING, *supra* note 23, at A-1, A-4.

described in item (1).”³³⁴ But the rest of the sentence clarifies that such an area must be “in a control area that is adjacent to the PJM region.”³³⁵ In effect, part (2) merely diminishes the number of states Maryland will discriminate against based on location. For example, the generators that satisfy part (2), located in a control area adjacent to the PJM region, at best includes a majority of states east of Ohio but would still exclude well over half of the United States based purely on location. Thus, the Court would likely apply per se scrutiny and invalidate the Maryland RPS. As an afterthought, Maryland legislators included a delivery component in part (2) to ensure that these farther away regions still deliver renewable electricity, and thus benefits, into the state.³³⁶ Despite this futile attempt to mitigate the effect of the language, the RPS still discriminates facially against half of the country based on location. The Court would deem the Maryland RPS per se invalid.

CONCLUSION

Current dormant Commerce Clause jurisprudence indicates that the Court will not reach the environmental benefits of an RPS if the legislation includes a geographic limit. Despite a lack of language indicating direct facial discrimination, the Court is focused on identifying any language that requires the state to discriminate, even indirectly, based on out-of-state location. Once the Court finds such facial discrimination, an RPS stands little chance of survival, as the Court will deem it per se invalid. To safeguard RPS provisions from dormant Commerce Clause challenges, states must avoid setting generator-applicability requirements based on location. Rather, states should draft requirements that focus on whether a renewable energy generator actually delivers benefits to the state. The least vulnerable provisions require that generators deliver electricity to the regional grid, or ISO, as a reasonable guarantee that the energy will reach in-state consumers and benefit the environment in and around the state.

This Note provides examples of existing RPSes that will be invalidated because of disparate treatment of entities based on geographic origin in REC-eligibility requirements, stated preferences for renewable electricity produced in-state, and REC-eligibility requirements based on regional limits. This Note has also illustrated the constitutional soundness of benefit

334. MD. CODE ANN. PUB. UTIL. COS. § 7-701(i)(2).

335. *Id.*

336. See RADER & HEMPLING, *supra* note 23, at A-4 (“[E]ven if ‘adjacent states’ seems like a reasonable proxy for ‘locations that will provide benefits to our state,’ . . . it facially discriminates and offers no hope for anyone in any other state to offer proof.”).

delivery as the main component of RPS generator applicability requirements. In particular, this Note has argued that interconnection into the relevant ISO is the safest way for states to avoid a dormant Commerce Clause challenge to an RPS. Hopefully, the legislators and citizens of Colorado and all the other states considering the advantages of renewable portfolio standards will take heed.³³⁷

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337. According to a Final Order of the Colorado Public Utilities Commission, one interested party has argued for a broad REC trading program without regard to state or region: “CREA/Tri-State argues that RECs should be voluntary and that the market for RECs should be continental rather than limited to Colorado or the Western Interconnect. Tri-State wants assurances that its co-op customers and their members can participate in the REC market.” Proposed Rules Implementing Renewable Energy Standards 4 CCR 723-3, Decision No. C05-1461 (Co. Pub. Util. Comm’n Oct. 7, 2005), at 30 (order adopting rules), <http://digbig.com/4rycp> (follow “C05-1461” hyperlink).