

1-30-2014

Renewable Portfolio Standards and the Dormant Commerce Clause: The Case for In-Region Location Requirements

William Griffin

Boston College Law School, william.griffin.2@bc.edu

Follow this and additional works at: <http://lawdigitalcommons.bc.edu/ealr>

 Part of the [Constitutional Law Commons](#), [Energy and Utilities Law Commons](#), and the [Environmental Law Commons](#)

Recommended Citation

William Griffin, *Renewable Portfolio Standards and the Dormant Commerce Clause: The Case for In-Region Location Requirements*, 41 B.C. Envtl. Aff. L. Rev. 133 (2014), <http://lawdigitalcommons.bc.edu/ealr/vol41/iss1/4>

This Notes is brought to you for free and open access by the Law Journals at Digital Commons @ Boston College Law School. It has been accepted for inclusion in Boston College Environmental Affairs Law Review by an authorized editor of Digital Commons @ Boston College Law School. For more information, please contact nick.szydowski@bc.edu.

RENEWABLE PORTFOLIO STANDARDS AND THE DORMANT COMMERCE CLAUSE: THE CASE FOR IN-REGION LOCATION REQUIREMENTS

WILLIAM GRIFFIN*

Abstract: Electricity generation facilities are the single largest source of greenhouse gas emissions in the United States. Although renewable generation facilities offer a cleaner alternative to traditional, carbon-intensive methods of electricity generation, output from renewable facilities is less reliable and more costly relative to facilities that burn fossil fuels. Therefore, in an unfettered marketplace, investment in renewable energy facilities would be slow if not stagnant. In response to concerns regarding anthropogenic climate change and fuel diversity, an increasing number of state governments have implemented statutory and regulatory regimes to incentivize the construction of renewable generation facilities within state or regional borders. These programs run the risk of violating the dormant Commerce Clause because they provide for differential treatment of electricity based, at least in part, upon the commodity's geographic origin. This Note argues that state programs that condition benefits upon the in-region location of a renewable generation facility or physical delivery of electricity from a facility in a neighboring region can survive scrutiny under the dormant Commerce Clause.

INTRODUCTION

A reliable source of electricity is necessary to support innumerable aspects of our everyday lives.¹ Unfortunately, the myriad benefits of readily accessible electricity come with environmental costs.² In 2010,

* Executive Articles Editor, BOSTON COLLEGE ENVIRONMENTAL AFFAIRS LAW REVIEW, 2013–2014.

¹ See *Use of Electricity*, U.S. ENERGY INFO. ADMIN., http://www.eia.gov/energyexplained/index.cfm?page=electricity_use (last updated Apr. 26, 2012), available at <http://perma.cc/08w6C6JUTos>.

² See Arnold W. Reitze, Jr., *Federal Control of Carbon Dioxide Emissions: What Are the Options?*, 36 B.C. ENVTL. AFF. L. REV. 1, 17 (2009). Electricity generation relies heavily on coal as a fuel source. *Id.* Furthermore, “[c]oal combustion not only is responsible for CO₂ emissions, but also produces conventional air pollutants that have adverse health and ecosystem effects.” *Id.*

electric generation facilities produced seventy-two percent of reported greenhouse gas emissions in the United States.³ The EPA estimates that forty percent of the United States's carbon emissions are the product of coal-fired power generation alone.⁴

Growing awareness of the adverse effects of greenhouse gases has prompted federal, state, and local governments to push for an increase in the utilization of renewable or "green" energy sources.⁵ Due to the significant cost advantages of generating electricity by burning fossil fuels, growth in renewable energy generation capacity would be slow, if not stagnant, in an unfettered marketplace.⁶ In the early 1980s, Iowa became the first state to use a renewable portfolio standard (RPS) to combat the market forces favoring fossil fuel-based generation.⁷ The basic premise behind an RPS is to create a separate market where renewable electricity does not directly compete with less costly electricity produced by burning fossil fuels.⁸

Some commentators have addressed concerns that many states might be violating the dormant Commerce Clause when implementing RPSs.⁹ Such concerns stem from RPS provisions that provide special incentives for generation within the enacting state or the enacting state's geographic region.¹⁰ Although federal courts have not yet issued rulings on the constitutionality of RPSs, many commentators believe that it is only a matter of time before an RPS is struck down as unconstitutional.¹¹ Recent litigation in the Ninth Circuit concerning the consti-

³ Dina Cappiello, *EPA: Power Plants Are Main Global Warming Culprits*, USA TODAY (Jan. 11, 2012), <http://usatoday30.usatoday.com/money/industries/environment/story/2012-01-11/greenhouse-gases-power-plants/52502466/1>, available at <http://perma.cc/0zQ1AGwFmBQ>; see also Steven Ferrey et al., *Fire and Ice: World Renewable Energy and Carbon Control Mechanisms Confront Constitutional Barriers*, 20 DUKE ENVTL. L. & POL'Y F. 125, 130 (2010) ("GHG emissions in the 21st century are mainly a result of power generation.").

⁴ Ferrey et al., *supra* note 3.

⁵ DONALD S. MCCAULEY ET AL., CAPTURING THE POWER OF ELECTRIC RESTRUCTURING 175 (Joey Lee Miranda ed., 2009); Melissa Powers, *Small Is (Still) Beautiful: Designing U.S. Energy Policies to Increase Localized Renewable Energy Generation*, 30 WISC. INT'L L.J. 595, 605 (2012).

⁶ See Trevor D. Stiles, *Renewable Resources and the Dormant Commerce Clause*, 4 ENVTL. & ENERGY L. & POL'Y J. 34, 42–43 (2009).

⁷ IOWA CODE ANN. § 476.41 (West 2009); see JOSHUA P. FERSHEE, THE LAW OF CLEAN ENERGY 80 (Michael B. Gerrard ed., 2011).

⁸ MCCAULEY ET AL., *supra* note 5.

⁹ See *infra* notes 180–189 and accompanying text.

¹⁰ See *infra* notes 55–60 and accompanying text.

¹¹ See *infra* notes 177–179 and accompanying text.

tutionality of other environmental statutes might lend credence to the commentators' speculation.¹²

This Note discusses the legal viability of RPSs that explicitly favor renewable generation facilities located within a particular geographic region. Part I discusses the mechanics of an RPS and the various geographic preferences that states have built into RPS statutes and regulations.¹³ This discussion is not limited to RPSs that favor in-region renewable energy, but rather covers a variety of RPSs currently in effect. Because alternative courses of action are considered in a dormant Commerce Clause analysis, a basic understanding of various RPS structures is necessary. Part II summarizes the Supreme Court's dormant Commerce Clause jurisprudence, including the different levels of judicial scrutiny and potential exceptions to the application of the dormant Commerce Clause.¹⁴ Part III examines recent challenges to RPSs and other litigation related to the dormant Commerce Clause and state-level environmental statutes.¹⁵ This Note concludes that RPSs explicitly favoring in-region renewable generation facilities are not inconsistent with the dormant Commerce Clause.¹⁶

I. THE CONTEXT OF RENEWABLE ENERGY MANDATES

A. RPS Fundamentals

1. RPS Policy and Planning

An RPS is a statutory or regulatory mandate that retail sellers of electricity include a certain amount of renewable energy in their wholesale electricity mix.¹⁷ Common examples of energy sources that qualify for state RPSs include wind energy, solar photovoltaic energy, geothermal energy, and tidal energy.¹⁸ An RPS creates a separate market for renewable electricity within a state or region and thereby incentivizes developers to invest in and build renewable energy capacity.¹⁹

¹² See *infra* notes 156–173 and accompanying text.

¹³ See *infra* notes 17–83 and accompanying text.

¹⁴ See *infra* notes 84–146 and accompanying text.

¹⁵ See *infra* notes 147–182 and accompanying text.

¹⁶ See *infra* notes 228–274 and accompanying text.

¹⁷ FERSHEE, *supra* note 7, at 77; MCCAULEY ET AL., *supra* note 5; NANCY RADER & SCOTT HEMPLING, NAT'L ASS'N OF REGULATORY UTIL. COMM'RS, THE RENEWABLES PORTFOLIO STANDARD 1–2 (2001).

¹⁸ FERSHEE, *supra* note 7, at 79.

¹⁹ See MCCAULEY ET AL., *supra* note 5. RPSs supplement federal tax credits to promote investment in large-scale renewable energy facilities. See Powers, *supra* note 5, at 613.

Different RPSs function in a variety of ways.²⁰ For example, an RPS can require a retail seller of electricity to procure a specified percentage of its wholesale power from qualifying renewable energy sources.²¹ Alternatively, an RPS can mandate that a retail seller procure, in absolute terms, a certain amount of electricity from renewable generation facilities.²² Furthermore, an RPS can focus on the amount of installed renewable energy capacity.²³

RPSs have traditionally been promulgated at the state level.²⁴ Initially, public utility commissions (PUCs) created and implemented RPSs, but state legislatures have increasingly begun to implement statutory mandates themselves.²⁵ As of November 2013, thirty-one states and the District of Columbia have an RPS or an “alternative portfolio standard,” while an additional seven states specify voluntary goals for renewable electricity procurement.²⁶ The fundamental policy goal behind an RPS is to increase the proportion of the wholesale electricity mix that is derived from renewable energy sources.²⁷

Due to limitations surrounding the construction of generation and transmission facilities, states and PUCs phase in RPSs gradually.²⁸ RPS-

²⁰ RYAN WISER ET AL., ERNEST ORLANDO LAWRENCE BERKELEY NAT’L LAB., *RENEWABLES PORTFOLIO STANDARDS: A FACTUAL INTRODUCTION TO EXPERIENCE FROM THE UNITED STATES* 4 (2007).

²¹ *Id.*

²² *Id.*

²³ *Id.* Capacity refers to the sum of megawatt hours that energy facilities are capable of generating under specific conditions. *What Is the Difference Between Electricity Generation Capacity and Electricity Generation?*, U.S. ENERGY INFO. ADMIN., <http://www.eia.gov/tools/faqs/faq.cfm?id=101&t=3> (last updated Nov. 16, 2012), available at <http://perma.cc/0Gmzyv2p4z>.

²⁴ WISER ET AL., *supra* note 20, at 1.

²⁵ Ken Silverstein, *Would Efforts Backfire to Repeal Renewable Portfolio Standards?*, ENERGYBIZ (Nov. 26, 2012), <http://www.energybiz.com/article/12/11/would-efforts-backfire-repeal-renewable-portfolio-standards>, available at <http://perma.cc/0Qyb5LScPV5>. One commentator describes this process as the “democratization of renewables policy.” *Id.*

²⁶ *Renewable and Alternative Energy Portfolio Standards*, CTR. FOR CLIMATE AND ENERGY SOLUTIONS, <http://www.c2es.org/node/9340> (last visited Nov. 20, 2013), available at <http://perma.cc/0dstvY8PE8L>; *Most States Have Renewable Portfolio Standards*, U.S. ENERGY INFO. ADMIN. (Feb. 3, 2012), <http://www.eia.gov/todayinenergy/detail.cfm?id=4850>, available at <http://perma.cc/0sxHfnUDDGj>.

²⁷ *Most States Have Renewable Portfolio Standards*, *supra* note 26. Other policy goals of RPSs include reducing carbon emissions, stimulating local economic activity, promoting diversity in generation, and increasing energy security. DAVID HURLBUT, NAT’L RENEWABLE ENERGY LAB., *STATE CLEAN ENERGY PRACTICES: RENEWABLE PORTFOLIO STANDARDS* 2 (2008).

²⁸ See MICHAEL DWORKIN ET AL., *THE LAW OF CLEAN ENERGY* 531–32 (Michael B. Gerard ed., 2011) (discussing hardships of delivering renewable energy to locations where demand exists); FERSHEE, *supra* note 7, at 77; James W. Moeller, *Interstate Electric Transmission Lines and States’ Rights in the Mid-Atlantic Region*, 40 B.C. ENVTL. AFF. L. REV. 77, 78

implementing states typically structure their programs around a long-term goal that is incrementally increased according to a predetermined compliance schedule.²⁹ For example, Massachusetts's RPS requires retail sellers of electricity to source 15% of their electricity from Class I renewable energy sources by the year 2020, with an annual 1% increase thereafter.³⁰ In the interim, the RPS sets out annual benchmarks to be met along the way.³¹

2. RPS Design and Renewable Energy Certificates

A state legislature or PUC responsible for establishing an RPS has complete autonomy over its design.³² RPSs commonly feature a provision that specifies how much electricity a retail seller must purchase from renewable sources of energy, and some states take a more aggressive approach than others.³³ California, for example, has established a goal of 33% of retail sales by 2020,³⁴ whereas Arizona's RPS requires just 15% of retail sales after 2024.³⁵

Furthermore, the legislature or PUC must decide what energy sources qualify as "renewable" under the RPS.³⁶ The types of generation facilities that qualify under different RPSs vary widely by state.³⁷

(2013) (noting that societal benefits of competition in wholesale power markets are limited by the availability of high-voltage transmission lines). Transmission is a particularly important issue in the renewable energy context because renewable fuel sources are not as easy to transport as fossil fuels. DWORKIN ET AL., *supra* at 531. Unlike fossil fuels, which can be easily stored and transported by common carriers, the most economical way to produce electricity with renewable sources is to generate electricity at or near the source, and then use existing transmission lines to bring the electricity wherever it is demanded. *Id.* at 532.

²⁹ See FERSHEE, *supra* note 7, at 77.

³⁰ 225 MASS. CODE REGS. 14.07(1), (3) (2012).

³¹ *Id.* at 14.07(1). From the present date through the year 2020, the annual increase required in Massachusetts is one percent per year. *Id.* In the early stages of RPS implementation, the RPS sometimes required only an one-half percent annual increase. *Id.*

³² See FERSHEE, *supra* note 7, at 78.

³³ See *id.* at 77–80 (comparing Pennsylvania's requirement of 8% by 2020 to New York's requirement of 30% by 2015).

³⁴ CAL. PUB. UTIL. CODE § 399.15(b)(2)(B) (West 2013).

³⁵ ARIZ. ADMIN. CODE § R14–2–1804(B) (2011). It is important to note that the percentage specified in the statute does not always demonstrate how a particular state's RPS target will affect renewable energy development. See MCCAULEY ET AL., *supra* note 5, at 188. For example, although Maine's thirty-percent requirement appears to be aggressive, the definition of renewable in Maine's RPS includes hydroelectric facilities that pre-dated the RPS. See *id.* Because the state's pre-existing renewable capacity was sufficient to meet the mandate, Maine's RPS does not provide strong incentives for additional renewable construction. See *id.*

³⁶ See FERSHEE, *supra* note 7, at 79–80.

³⁷ *Id.*

Most RPSs consider sources such as wind, solar, geothermal, and tidal energy as renewable, but there is no consensus on the eligibility of sources such as biomass and municipal solid waste incineration.³⁸

A state's autonomy over its RPS extends to establishing which entities must comply with its provisions.³⁹ A state can choose to have its RPS apply to all retail electricity sellers in the state or, like Minnesota, create specific provisions that in effect apply to one utility only.⁴⁰ States often exempt entities such as municipalities and rural electric cooperatives from RPS requirements.⁴¹

States must also devise a method for regulated entities to demonstrate compliance with an RPS.⁴² Unless a utility also owns a renewable generation facility, the utility generally complies with an RPS's mandates through the purchase of renewable energy credits (REC), which have become the "currency" of renewable electricity markets.⁴³ Generally, one REC represents the environmental attributes associated with the generation of one megawatt-hour of electricity.⁴⁴ In an RPS that uses RECs, renewable power plants theoretically have two outputs that can be sold together or separately.⁴⁵ The first output is the electricity

³⁸ WISER ET AL., *supra* note 20, at 5. Pennsylvania's alternative energy standard illustrates how broadly some states define the term "renewable." See 73 PA. CONS. STAT. ANN. § 1648.2 (West 2008). In Pennsylvania, the combustion of waste coal is considered renewable in some circumstances. See *id.* The enacting body may tailor the RPS to the characteristics of the enacting state. *Most States Have Renewable Portfolio Standards*, *supra* note 26. For example, a state with an abundant supply of commercial-grade wind energy will be inclined to incentivize the construction of wind farms to attract investment in renewable energy. See *id.*

³⁹ See FERSHEE, *supra* note 7, at 78.

⁴⁰ Alexandra B. Klass, *Interstate Transmission Challenges for Renewable Energy: A Federalism Mismatch*, 65 VAND. L. REV. 1801, 1832 n.157 (2012); compare 225 MASS. CODE REGS. 14.04 (applying to all Massachusetts electricity retailers), with MINN. STAT. § 216B.1691 subdiv. 2a(b) (2010) (containing provisions that in effect only apply to only one utility).

⁴¹ See FERSHEE, *supra* note 7, at 78.

⁴² WISER ET AL., *supra* note 20, at 3.

⁴³ FERSHEE, *supra* note 7, at 79; ENVTL. PROT. AGENCY, RENEWABLE ENERGY CERTIFICATES 1 (2008), available at http://www.epa.gov/greenpower/documents/gpp_basics-recs.pdf and <http://perma.cc/0Sw8jY5mb81>. Because most states require regulated parties to demonstrate compliance with an RPS through the use of RECs, this Note assumes that an RPS uses REC trading unless explicitly stated otherwise. See Powers, *supra* note 5, at 611.

⁴⁴ Michael Zimmer et al., *RECs Get Real*, 145 No. 11 PUB. UTIL. FORT. 25, 25 (2007).

⁴⁵ FERSHEE, *supra* note 7, at 79. Absent a direct connection between generator and end-user, it is impossible to trace electrons in interstate commerce. See *New York v. Fed. Energy Regulatory Comm'n*, 535 U.S. 1, 7 n.5 (2002) ("[E]lectricity flowing onto a power network or grid energizes the entire grid, and consumers then draw undifferentiated energy from that grid."). Therefore, electricity does not necessarily follow its contract path from seller to purchaser. See Steven Ferrey, *Follow the Money! Article I and Article VI Constitutional Barriers to Renewable Energy in the U.S. Future*, 17 VA. J.L. & TECH. 89, 105 (2012).

that the facility generates.⁴⁶ The second output is a bundling of the electricity's environmental attributes into a tradable financial instrument.⁴⁷ These financial instruments are RECs.⁴⁸

RECs are common features of RPS programs for two reasons.⁴⁹ First, RECs increase flexibility in compliance with the mandates promulgated by an RPS.⁵⁰ RECs increase flexibility because utilities do not have to construct their own renewable generation facilities to meet their renewable energy obligations.⁵¹ In addition to being self-generated, RECs may be purchased in an REC trading market.⁵² Second, RECs help reduce the financial burdens of implementing an RPS.⁵³ A purchaser of RECs acquires the rights to the environmental attributes of renewable electricity but does not necessarily take physical delivery of the electricity itself.⁵⁴ This arrangement allows for the avoidance of costs associated with the transmission and distribution of electricity across long distances, but does not assure a geographic nexus between the retail customer and some of the location-specific benefits of renewable energy.⁵⁵

⁴⁶ FERSHÉE, *supra* note 7, at 79.

⁴⁷ McCauley et al., *supra* note 5, at 188. The environmental attributes usually represent the carbon-dioxide, sulfur-oxide, and nitrogen-oxide emissions profile of the electricity. *Id.* If the emissions profile meets the criteria set forth by the state RPS, a REC is produced along with the renewable electricity. *Id.*

⁴⁸ *See id.*

⁴⁹ Wiser et al., *supra* note 20, at 3–4.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.* Per unit of output, renewable energy is more expensive than energy produced by burning fossil fuels. Stiles, *supra* note 6, at 43–44.

⁵⁴ FERSHÉE, *supra* note 7, at 79; see ENVTL. PROT. AGENCY, RENEWABLE ENERGY CERTIFICATES: BACKGROUND & RESOURCES 2 (2008), available at http://www.epa.gov/statelocalclimate/documents/pdf/background_paper_recs_10-21-2008.pdf and <http://perma.cc/08fUPBkNwjc>.

⁵⁵ *See* INT'L ELECTROTECHNICAL COMM'N, EFFICIENT ELECTRICAL ENERGY TRANSMISSION AND DISTRIBUTION 2 (2007). Electricity is lost in transmission due to resistance in transmission lines and conversion of the power from high to low voltages. *Id.* at 2, 7–8. The resistance in a transmission line represents friction and results in energy being lost as heat. LANA WONG, A REVIEW OF TRANSMISSION LOSSES IN PLANNING STUDIES 8 (2011). The resistance within a transmission line increases as the line's length increases, and therefore, losses are greater in longer transmission lines. *Id.* A California researcher stated "[i]n wetter years, California hydropower generation may account for a larger source of generation while out-of-state generation and other in-state fossil units may account for less, so losses would be generally lower in wetter years." *Id.* at 13–14. A seven-year study found a negative correlation between in-state hydroelectric generation and transmission losses. *Id.*

B. *Examples of Geographic Preferences in State RPSs and Renewable Energy Certificate Tracking Systems*

A driving interest behind state-level RPSs is exacting local benefits from the construction of renewable generation facilities.⁵⁶ States want to retain the economic benefits of jobs and tax revenues, the environmental benefits of displacing fossil fuel-intensive electricity generation, and the price-stability benefits of diversifying the energy portfolio of retail electricity suppliers.⁵⁷ Consequently, states sometimes use their autonomy over RPS design to categorically exclude out-of-state or out-of-region generation as ineligible, or to otherwise provide benefits to local renewable energy development.⁵⁸

One commentator identified five main categories in which to organize existing geographic preferences in state RPS programs.⁵⁹ The first category of geographic preferences involves a state awarding extra RECs based on the location of a renewable generation facility.⁶⁰ The second category provides an explicit preference for in-state renewable generation.⁶¹ The third category involves limiting eligibility based on in-region, rather than in-state location of the renewable energy resource.⁶² The fourth category of geographic preferences involves defining an eligible resource as a generation facility that is located in a certain state or region.⁶³ The fifth category involves providing extra

⁵⁶ HURLBUT, *supra* note 27.

⁵⁷ *Id.* If added to the wholesale electricity mix, renewable power sources would likely be the first power sources dispatched by the system operator to meet market demand. Steven Ferrey, *Restructuring a Green Grid: Legal Challenges to Accommodate New Renewable Energy Infrastructure*, 39 ENVTL. L. 977, 987–88 (2009). Despite the capital intensity of constructing a renewable generation facility, renewable fuel sources such as wind and solar energy are free. *Id.* Therefore, there is virtually no marginal cost associated with an additional unit of output from a renewable generator. *Id.* In New England, the systems operator dispatches generation units beginning with the lowest cost producer, meaning many renewable energy resources are the first to be dispatched. ISO NEW ENGLAND INC., THE BENEFITS OF UNIFORM CLEARING PRICE AUCTIONS FOR PRICING ELECTRICITY: WHY PAY-AS-BID AUCTIONS DO NOT COST LESS 1 (2006), available at http://www.iso-ne.com/pubs/whthprps/uniform_clearing_price_auctions.pdf and <http://perma.cc/0PdR5ZMHnfk>.

⁵⁸ See Steven Ferrey, *Threading the Constitutional Needle with Care: The Commerce Clause Threat to the New Infrastructure of Renewable Power*, 7 Tex. J. Oil Gas & Energy L. 59, 72 (2011–2012).

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

incentives and REC credits for renewable facilities that are built with in-state labor and component parts.⁶⁴

1. Massachusetts and the New England Power Pool: In-State Location and In-Region Deliverability Requirements

RECs produced by facilities outside of New England must meet the requirements of the New England Power Pool Generation Information System (“NEPOOL-GIS”) Operating Rules and the Massachusetts regulations to be eligible under Massachusetts’s RPS.⁶⁵ NEPOOL-GIS is an REC tracking and accounting system that collects the generation characteristics for every megawatt-hour of electricity produced within the ISO-New England (ISO-NE) system.⁶⁶ NEPOOL-GIS only creates tradable RECs for generation outside of New England if the generator obtains transmission and actually delivers its energy into the ISO-NE control area.⁶⁷ Therefore, except where these requirements are met, the Massachusetts regulations and ISO-NE Operating Rules effectively place Massachusetts into the category of states that restrict RPS eligibility based on the in-region location of generation facilities.⁶⁸

Massachusetts’s RPS also mandates that a portion of the RPS obligations are satisfied by solar energy technologies.⁶⁹ The statute establishing Massachusetts’s RPS mandates the Department of Public Utili-

⁶⁴ Ferrey, *supra* note 58, at 72.

⁶⁵ 225 MASS. CODE REGS. 14.05(5). A “power pool” is a group of utilities “that has agreed informally to establish common principles and practices for interconnected operation, to jointly review area power supply problems and establish criteria for power supply adequacy, to exchange generation and transmission construction plans, and to seek coordinated action for best economy and reliability” CHARLES F. PHILLIPS, JR., *THE REGULATION OF PUBLIC UTILITIES* 640 (1993). Such a group “relies on voluntary adherence by members to pool principles and criteria.” *Id.*

⁶⁶ McCauley et al., *supra* note 5, at 195. ISO-NE is a corporation responsible for compensating wholesale electricity suppliers and continually using automated signals to increase or decrease output to instantaneously match changes in electricity demand. See ISO NEW ENGLAND INC., *OVERVIEW OF NEW ENGLAND’S WHOLESALE ELECTRICITY MARKETS AND MARKET OVERSIGHT 1* (2012) [hereinafter *NEW ENGLAND’S WHOLESALE ELECTRICITY MARKETS*], available at http://www.iso-ne.com/pubs/spcl_rpts/2012/markets_overview_final_051512.pdf and <http://perma.cc/0UeVe85t1Kz>; *Company Profile*, ISO NEW ENGLAND, http://www.iso-ne.com/aboutiso/co_profile/index.html (last visited Mar. 30, 2013), available at <http://perma.cc/0zmbSkmqxmA>. ISO-NE’s stated goal is to “ensure a reliable and economic supply of electricity to the high-voltage power grid.” *NEW ENGLAND’S WHOLESALE ELECTRICITY MARKETS*, *supra* at 2. The ISO-NE control area comprises Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. *Id.* at 3.

⁶⁷ K.S. CORY & B.G. SWEZEY, NAT’L RENEWABLE ENERGY LAB., *RENEWABLE PORTFOLIO STANDARDS IN THE STATES: BALANCING GOALS AND IMPLEMENTATION STRATEGIES* 8 (2007).

⁶⁸ *Id.*

⁶⁹ 225 MASS. CODE REGS. 14.05(4)(a).

ties (DPU) to require that each retail supplier of electricity procure a certain percentage of its sales from specific technologies or fuels.⁷⁰ The DPU has discretion over what specific types of renewable technologies satisfy the RPS requirements as well as the amount of renewable electricity to be procured.⁷¹ The Massachusetts DPU created a “Solar Carve-Out” that requires a specified percentage of electricity each year to come from in-state solar facilities.⁷²

2. Arizona: Location-Based REC Multipliers and Preferences for In-State Component Parts

Arizona’s RPS incentivizes the construction of in-state renewable generation facilities through the use of extra credit multipliers.⁷³ The Arizona Administrative Code defines extra credit multipliers as “a way to increase the Renewable Energy Credits attributable to specific Eligible Renewable Energy Resources in order to *encourage specific renewable applications.*”⁷⁴ One of the available multipliers is neutral regarding the origin of the electricity and simply provides a multiplier ranging from 10% to 30% for the “early installation” of renewable energy capacity.⁷⁵ Arizona also offers multipliers that favor in-state renewable generation, including a 50% multiplier for in-state solar generation and a 50% multiplier for various types of in-state renewable energy generation that also use component parts manufactured in Arizona.⁷⁶

3. Ohio: Explicit Preference for In-State Renewable Energy

The statute and regulations that implement Ohio’s RPS also contain provisions that incentivize in-state renewable energy generation.⁷⁷ Rather than providing incentives by offering an REC multiplier, Ohio

⁷⁰ MASS. GEN. LAWS ANN. ch. 25A, § 11F(e) (West 2010). Massachusetts’s electric industry is heavily reliant on natural gas as a fuel source. *See* Press Release, ISO New England, New England Winter Grid Outlook: ISO-NE Forecasts Sufficient Capacity to Meet Demand (Dec. 3, 2012). As a result of natural gas prices falling in recent years, approximately 45% of New England’s generating capacity depends on natural gas and more than 50% of the region’s electricity is produced using natural gas. *Id.*

⁷¹ MASS. GEN. LAWS ANN. ch. 25A, § 11F(e).

⁷² 225 MASS. CODE REGS. 14.05(4) (a), 14.07(2).

⁷³ ARIZ. ADMIN. CODE § R14–2–1806.

⁷⁴ *Id.* § R14–2–1801(I) (emphasis added).

⁷⁵ *Id.* § R14–2–1806(C). To be eligible for this credit multiplier, the qualifying facility had to be installed and placed into service between January 1, 2001, and December 31, 2003. *Id.*

⁷⁶ ARIZ. ADMIN. CODE § R14–2–1806(D)–(E).

⁷⁷ OHIO REV. CODE ANN. § 4928.64(B) (3) (West 2010).

imposes an affirmative duty on retail sellers of electricity to meet half of the RPS requirements through generation facilities located in-state.⁷⁸ Moreover, Ohio recently enacted legislation that expands RPS eligibility to include “[a]ny new, retrofitted, refueled, or repowered generating facility located in Ohio, including a . . . natural gas generating facility or a generating facility that uses biomass, coal, modular nuclear, or any other fuel as its input.”⁷⁹ Therefore, Ohio’s RPS is really not limited to renewable energy sources, but includes non-renewable energy as long as the generation occurs in-state.⁸⁰

4. New Jersey: Defining Eligibility Based on Location

New Jersey’s RPS provides that, to be awarded RECs, a renewable generation facility must be located within, or deliver electricity to, the PJM-ISO region.⁸¹ For a generation facility outside the region to create RECs under New Jersey’s RPS, the facility’s electricity must be under contract for delivery into the PJM region pursuant to the PJM operating agreement.⁸² Out-of-region facilities that are eligible for delivery into the region are further limited to facilities that commenced construction after January 1, 2003.⁸³

II. THE DORMANT COMMERCE CLAUSE

A. *Dormant Commerce Clause: Background*

Notwithstanding the purported benefits of state renewable portfolio standard (RPS) initiatives, commentators have speculated that many RPSs are likely unconstitutional under the dormant Commerce Clause of the Constitution.⁸⁴ The Constitution’s Commerce Clause grants Congress the power “[t]o regulate Commerce . . . among the several

⁷⁸ *Id.*

⁷⁹ 2012 Ohio Legis. Serv. Ann. 125 (West).

⁸⁰ *Id.*

⁸¹ N.J. ADMIN. CODE § 14:8–2.7(b) (2013). PJM Interconnection, LLC is a regional transmission organization that operates the transmission facilities serving Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia. Moeller, *supra* note 28, at 81.

⁸² N.J. ADMIN. CODE § 14:8–2.7(b).

⁸³ *Id.* § 14:8–2.7(c).

⁸⁴ Stiles, *supra* note 6, at 64; Nathan E. Endrud, Note, *State Renewable Portfolio Standards: Their Continued Validity and Relevance in Light of the Dormant Commerce Clause, the Supremacy Clause, and Possible Federal Legislation*, 45 HARV. J. ON LEGIS. 259, 270 (2008).

States . . .”⁸⁵ The implications of the Commerce Clause are not limited to its affirmative grant of power to Congress.⁸⁶ Rather, the Commerce Clause’s affirmative grant of power to Congress impliedly places a limitation on the ability of states and municipalities to enact laws affecting interstate commerce.⁸⁷ This principle is known as the dormant Commerce Clause.⁸⁸ Using the dormant Commerce Clause, a court can invalidate a state or local law, even in the absence of congressional action and Supremacy Clause issues.⁸⁹

If a state law is struck down as unconstitutional under the dormant Commerce Clause, Congress can essentially overrule the judiciary by passing legislation expressly validating the state law.⁹⁰ Congress, however, is limited by the Commerce Clause in its ability to approve state laws regulating commerce.⁹¹ Moreover, congressional approval of a state law does not exempt the law from scrutiny under other provisions of the Constitution such as the Equal Protection or Privileges and Immunities clauses.⁹²

B. *Dormant Commerce Clause: Jurisprudence*

At the outset, a dormant Commerce Clause analysis of a state law affecting commerce is bifurcated.⁹³ Two predominant categories of state laws subject to judicial scrutiny under the dormant Commerce Clause exist.⁹⁴ The first category includes laws affecting commerce that operate to discriminate against out-of-state economic interests through “differential treatment of in-state and out-of-state economic interests that benefits the former and burdens the latter.”⁹⁵ Discriminatory laws can be either facially discriminatory or discriminatory in practical ef-

⁸⁵ U.S. CONST. art. I, § 8, cl. 3.

⁸⁶ *See* C & A Carbone, Inc. v. Town of Clarkstown, 511 U.S. 383, 390 (1994) (“The central rationale for the rule against discrimination is to prohibit state or municipal laws whose object is local economic protectionism, laws that would excite those jealousies and retaliatory measures the Constitution was designed to prevent.”).

⁸⁷ *See id.*

⁸⁸ ERWIN CHEMERINSKY, CONSTITUTIONAL LAW 401(2d ed. 2002).

⁸⁹ *Id.*

⁹⁰ *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.”).

⁹¹ *See* U.S. CONST. art. I, § 8, cl. 3.

⁹² CHEMERINSKY, *supra* note 88, at 429.

⁹³ *See* *Or. Waste Sys. v. Dep’t of Envtl. Quality*, 511 U.S. 93, 99 (1994).

⁹⁴ *Id.*

⁹⁵ *Id.*

fect.⁹⁶ When challenged, these state laws are subjected to “strict scrutiny,” and are virtually *per se* unconstitutional unless the state defending the law can demonstrate both a legitimate local purpose and that the same purpose could not be served through less discriminatory means.⁹⁷ State laws subjected to the Court’s strict scrutiny test rarely pass constitutional muster.⁹⁸

Alternatively, some state laws affecting commerce are non-discriminatory and have only an incidental effect on interstate commerce.⁹⁹ These laws will be subjected to a less rigorous balancing test.¹⁰⁰ For a non-discriminatory state law affecting commerce to be upheld as constitutional, a state must only demonstrate that the putative local benefits of the law outweigh the costs of the law’s burden on interstate commerce.¹⁰¹ The difference in the Court’s treatment of discriminatory and non-discriminatory laws makes the distinction critical.¹⁰²

1. Analysis of Discriminatory Laws

Assuming a state law is at issue, and that law affects commerce in some manner, the first critical inquiry is determining whether the state law is a discriminatory or protectionist measure.¹⁰³ If the state law is essentially a discriminatory and protectionist measure, the court will apply the strict scrutiny test.¹⁰⁴ Under this test, a state law will be held unconstitutional unless the state can demonstrate “that it advances a legitimate local purpose that cannot be adequately served by reasonable nondiscriminatory alternatives.”¹⁰⁵ The burden of proof under strict scrutiny lies with the state or municipality defending the law in question.¹⁰⁶ The burden on the state seeking to defend its law is heavy, and the Supreme Court has commented “facial discrimination by itself

⁹⁶ *Wyoming v. Oklahoma*, 502 U.S. 437, 456 (1992) (finding that an Oklahoma statute discriminated on its face and in practical effect); *Dean Milk Co. v. City of Madison*, 340 U.S. 349, 354 (1951) (“[T]his regulation . . . in *practical effect* excludes from distribution in Madison wholesome milk produced and pasteurized in Illinois.”) (emphasis added).

⁹⁷ *Or. Waste Sys.*, 511 U.S. at 100–01; *New Energy Co. of Ind. v. Limbach*, 486 U.S. 269, 278 (1988).

⁹⁸ *See, e.g., W. Lynn Creamery v. Healy*, 512 U.S. 186, 194, 199 (1994); *Wyoming*, 502 U.S. at 456; *City of Phila. v. New Jersey*, 437 U.S. 617, 628–29 (1978).

⁹⁹ *Or. Waste Sys.*, 511 U.S. at 99.

¹⁰⁰ *See id.*; *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970).

¹⁰¹ *Pike*, 397 U.S. at 142.

¹⁰² *See infra* notes 99–125 and accompanying text.

¹⁰³ *Or. Waste Sys.*, 511 U.S. at 99.

¹⁰⁴ *Id.* at 101.

¹⁰⁵ *New Energy Co.*, 486 U.S. at 278.

¹⁰⁶ *Hunt v. Wash. State Apple Adver. Comm’n*, 432 U.S. 333, 353 (1977).

may be a fatal defect.”¹⁰⁷ Indeed, the Court refers to laws enacted for economic protectionism as virtually *per se* invalid.¹⁰⁸

In *City of Philadelphia v. New Jersey*, a New Jersey law facially prohibited the importation of waste originating from outside the state.¹⁰⁹ The Supreme Court in 1978 determined that the state law isolated New Jersey from the problem of waste accommodation by erecting barriers to trade.¹¹⁰ The law placed a burden on out-of-state interests by explicitly disallowing the importation of waste from beyond state borders.¹¹¹ The Court, in striking down the law, found that the contested law fell “squarely within the area that the Commerce Clause puts off limits to state regulation.”¹¹²

In *Dean Milk Co. v. City of Madison*, the Court in 1951 held that a local regulation on the sale of milk violated the dormant Commerce Clause.¹¹³ In contrast to *City of Philadelphia*, the local regulation in this case did not facially discriminate against out-of-state interests, but rather discriminated in practical effect.¹¹⁴ The challenged ordinance prohibited the sale of milk that had not been processed and bottled at an approved plant within a five-mile radius of the city’s center.¹¹⁵ Notwithstanding the local government’s prerogative to provide for the health and safety of its citizens, the Court reasoned that because reasonable and adequate alternatives were available, the ordinance violated the dormant Commerce Clause.¹¹⁶

In *West Lynn Creamery v. Healy*, the Supreme Court in 1994 struck down a Massachusetts pricing order that imposed a tax on all milk sold

¹⁰⁷ *Or. Waste Sys.*, 511 U.S. at 101.

¹⁰⁸ *City of Phila.*, 437 U.S. at 624.

¹⁰⁹ *Id.* at 628.

¹¹⁰ *Id.* (“What is crucial is the attempt by one State to isolate itself from a problem common to many by erecting a barrier against the movement of interstate trade.”).

¹¹¹ *See id.* at 618.

¹¹² *Id.* at 628.

¹¹³ 340 U.S. at 354.

¹¹⁴ *Id.*

¹¹⁵ *Id.* at 350–51.

¹¹⁶ *Id.* at 354 (“In thus erecting an economic barrier protecting a major local industry . . . , Madison plainly discriminates against interstate commerce. This it cannot do, even in the exercise of its *unquestioned power* to protect the health and safety of its people, if reasonable nondiscriminatory alternatives . . . are available.”) (emphasis added). Scholars have interpreted *Dean Milk* to mean that when a state or local government regulates for the welfare and health of its people, the government “only has to use the means with the least burden on commerce if the party challenging the state or local law can demonstrate that the state or local government could *achieve exactly equal benefits* through a law that would not place a great burden on commerce.” JOHN E. NOWAK & RONALD D. ROTUNDA, CONSTITUTIONAL LAW 370 (8th ed. 2010) (emphasis added).

by dealers to Massachusetts retailers.¹¹⁷ In conjunction with the pricing order, Massachusetts distributed all proceeds of the assessment to in-state dairy farmers.¹¹⁸ The Supreme Court analogized the combination of taxation and subsidies to an impermissible protective tariff or customs duty.¹¹⁹ Eschewing formalism in favor of case-by-case analysis, the Court invoked language from a 1940 opinion stating, “[t]he commerce clause forbids discrimination, whether forthright or ingenious. In each case it is our duty to determine whether the statute under attack . . . will in its practical operation work discrimination against interstate commerce.”¹²⁰

2. Analysis of Non-Discriminatory Laws

Where a state law is not patently discriminatory with regard to interstate trade, the law is subject to less rigorous judicial scrutiny.¹²¹ A state law that regulates even-handedly and imposes only incidental burdens on interstate commerce will generally be upheld unless the burden is clearly excessive in relation to local benefits.¹²² Where a law does in fact produce bona fide local benefits, the court weighs the benefits against the law’s corresponding burdens on commerce.¹²³ Moreover, a court will be more inclined to uphold a law as constitutional if the benefits of the law could not be brought about through less restrictive means.¹²⁴ This analytical approach, outlined by the Court in *Pike v. Bruce Church, Inc.*, is known as the *Pike* balancing test.¹²⁵

Importantly, where a state law regulates even-handedly rather than in a discriminatory manner, the government defending its law will have

¹¹⁷ 512 U.S. at 188. Out-of-state dairy farmers sold approximately two-thirds of the milk subject to the assessment. *Id.*

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 193–94. The Court stated that a tariff or customs duty is the “paradigmatic example” of a law discriminating against interstate commerce. *Id.* at 193. According to the Court, tariffs and customs duties violate the principle of a unitary national market by neutralizing the competitive advantage of out-of-state competitors and artificially encouraging in-state production. *See id.*

¹²⁰ *Id.* at 201 (quoting *Best & Co. v. Maxwell*, 311 U.S. 454, 455–56 (1940)).

¹²¹ Compare *Pike*, 437 U.S. at 142 (outlining the Court’s balancing test), with *Dean Milk*, 340 U.S. at 354 (outlining the requirements of the Court’s strict scrutiny test).

¹²² *Pike*, 437 U.S. at 142.

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ Daniel M. Forman, *The Dormant Commerce Clause and the Massachusetts Landfill Moratorium: Are National Market Principles Adequately Served?*, 24 B.C. ENVTL. AFF. L. REV. 425, 431 (1997).

two distinct advantages.¹²⁶ First, the burden of proof will be on those challenging the law as unconstitutional.¹²⁷ Second, there is a presumption of validity in that a state law will be upheld absent a showing that the law places a clearly excessive burden on interstate commerce relative to the local benefits.¹²⁸ A state will not be required to use the least restrictive means available to further its goal unless those challenging the law can demonstrate that less discriminatory measures can achieve the goal with equal efficacy.¹²⁹

3. The Dormant Commerce Clause in the Energy and Environmental Context

In *Wyoming v. Oklahoma*, the Supreme Court in 1992 struck down an Oklahoma statute requiring in-state, coal-fired generation plants to use at least ten percent Oklahoma-mined coal.¹³⁰ Applying strict scrutiny, the Court held that Oklahoma failed to demonstrate that the statute furthered a legitimate local interest that could not be adequately served by non-discriminatory alternatives.¹³¹ Reasoning that prior Court decisions foreclosed a justification based on protecting local industry against interstate competition, the Court found that the statute violated the dormant Commerce Clause.¹³²

¹²⁶ NOWAK & ROTUNDA, *supra* note 116, at 341.

¹²⁷ *Id.*

¹²⁸ *See id.*

¹²⁹ *See id.*

¹³⁰ 502 U.S. at 444, 458–59. Prior to enacting the legislation at issue in *Wyoming v. Oklahoma*, the Oklahoma legislature adopted a concurrent resolution “requesting Oklahoma utility companies using coal-fired generating plants to consider plans to blend ten percent Oklahoma coal with their present use of Wyoming coal; effecting a result of keeping a portion of ratepayer dollars in Oklahoma and promoting economic development.” *Id.* at 443.

¹³¹ *Id.* at 456.

¹³² *Id.* at 456–57. The concurrent resolution adopted by the Oklahoma legislature prior to enacting the law at issue in this case may have imbued the Court with a sense that the law was an impermissible attempt to achieve a presumably legitimate goal by “the illegitimate means of isolating the State from the national economy.” *See id.* (quoting *City of Philadelphia*, 437 U.S. at 627). Where a state law facially discriminates against interstate commerce, the law must be justified by a factor unrelated to economic protectionism. *See Wyoming*, 502 U.S. at 454; *Maine v. Taylor*, 477 U.S. 131, 148 (1986); NOWAK & ROTUNDA, *supra* note 116, at 338 (“[T]he economic enrichment of the local persons will not constitute a significant or important interest. Indeed, enrichment of local persons through the use of a discriminatory trade barrier should not be deemed a legitimate state goal.”); *see also New Energy Co.*, 486 U.S. at 279–80 (ruling unconstitutional an Ohio statute giving favorable tax treatment to ethanol produced in-state or in a state with a reciprocity agreement).

Maine v. Taylor, decided in 1986, is a rare example of the Court upholding a state statute notwithstanding the application of strict scrutiny.¹³³ The Maine statute at issue in this case prohibited the importation of all live baitfish.¹³⁴ Maine defended the statute by asserting that the importation ban protected the state's fisheries from parasites and non-native species.¹³⁵ In finding that no available non-discriminatory means existed, the Court stated that "[a] State must make reasonable efforts to avoid restraining the free flow of commerce across its borders, but it is not required to develop new and unproven means of protection at an uncertain cost."¹³⁶ The Court stated that "abstract possibilities" of alternative, non-discriminatory methods of protecting Maine's fisheries *do not* constitute available alternatives.¹³⁷ Responding to the argument that fish can swim directly into Maine's waters, thereby undermining the preservation of Maine's fisheries, the Court held that impediments to complete success are not enough to prevent the state from legislating to protect its environment.¹³⁸

4. The Market Participant Doctrine

The market participant doctrine allows states to discriminate against out-of-state interests in the provision of benefits from government programs.¹³⁹ Under the market participant doctrine, a state may

¹³³ 477 U.S. at 148–51; *see supra* notes 99–116 and accompanying text.

¹³⁴ *Taylor*, 477 U.S. at 132. Conversely, the Supreme Court struck down a New Hampshire statute empowering the public utilities commission to prohibit the *exportation* of electricity produced in-state. *New England Power Co. v. New Hampshire*, 455 U.S. 331, 344 (1982).

¹³⁵ *Taylor*, 477 U.S. at 133. The U.S. District Court for the District of Maine found that this was a legitimate local purpose, and the U.S. Court of Appeals for the First Circuit, in overturning the district court, did not expressly overrule that determination. *Id.* at 143. The First Circuit did note several factors that "cast doubt" on the purported legitimate local purpose, including (1) no other state banned the importation of live baitfish, (2) Maine allowed the importation of other freshwater fish subject to an inspection, (3) "an aura of economic protectionism" in statements made by the Maine Department of Inland Fisheries and Wildlife, and (4) doubts concerning the statute's efficacy. *Id.* at 143–44 (quoting *United States v. Taylor*, 752 F.2d 757, 761–62 (1st Cir. 1985)). The Supreme Court noted that "[s]hielding in-state industries from out-of-state competition is *almost* never a legitimate local purpose." *Id.* at 148 (emphasis added). As evidenced by the decision to uphold Maine's statute, the Court found that Maine's proffered justifications were legitimate. *See id.* at 148.

¹³⁶ *Id.* at 147.

¹³⁷ *Id.*

¹³⁸ *Id.* at 151.

¹³⁹ *See Hughes v. Alexandria Scrap Corp.*, 426 U.S. 794, 810 (1976); CHEMERINSKY, *supra* note 88, at 432; NOWAK & ROTUNDA, *supra* note 116, at 347.

provide subsidies to businesses and industries domiciled within the state without running afoul of the dormant Commerce Clause.¹⁴⁰ For the doctrine's exception to be applicable, the state cannot be acting in a regulatory role; it must be participating in the market through the expenditure of state funds.¹⁴¹

Hughes v. Alexandria Scrap Corp., decided in 1976, is regarded as the seminal case in market participant doctrine jurisprudence.¹⁴² In *Hughes*, the State of Maryland instituted a bounty system to incentivize the collection and disposal of abandoned cars.¹⁴³ The law establishing the bounty system placed an increased burden on out-of-state scrap processors in obtaining documentation to demonstrate the property rights required to process the automobile.¹⁴⁴ The increased burden on out-of-state scrap processors operated to channel the benefits of the bounty program to in-state processors.¹⁴⁵ The Court held the Maryland law constitutional because “[n]othing in the purposes animating the Commerce Clause prohibits a State, in the absence of congressional action, from participating in the market and exercising the right to favor its own citizens over others.”¹⁴⁶

III. CONTEMPORARY DORMANT COMMERCE CLAUSE CHALLENGES TO STATE RENEWABLE PORTFOLIO STANDARDS

A. Massachusetts Avoids Constitutional Scrutiny Through Settlement

Several varieties of geographic preferences in state renewable portfolio standards (RPS) exist.¹⁴⁷ Geographic preferences in state-level RPSs exist in the form of mandates for in-state renewable electricity generation, in-state sales of renewable electricity, in-state consumption of renewable electricity, and mandates for in-state delivery of the bene-

¹⁴⁰ *Hughes*, 426 U.S. at 810; CHEMERINSKY, *supra* note 88, at 432; NOWAK & ROTUNDA, *supra* note 116, at 347.

¹⁴¹ *New Energy Co.*, 486 U.S. at 277 (“That doctrine differentiates between a State’s acting in its distinctive governmental capacity, and a State’s acting in the more general capacity of a market participant; only the former is subject to the limitations of the [dormant] Commerce Clause.”); NOWAK & ROTUNDA, *supra* note 116, at 346.

¹⁴² See generally 426 U.S. 794 (discussing Maryland as a market participant).

¹⁴³ *Id.* at 797.

¹⁴⁴ *Id.* at 800.

¹⁴⁵ *Id.* at 794.

¹⁴⁶ *Id.* at 810.

¹⁴⁷ See *supra* notes 52–79 and accompanying text.

fits associated with renewable energy facilities.¹⁴⁸ Notwithstanding the various forms of geographic preferences, as of January 2014, no RPS has been held unconstitutional under the dormant commerce clause.¹⁴⁹

In April 2010, a Canadian energy company filed a complaint challenging two provisions of Massachusetts's RPS.¹⁵⁰ TransCanada, owner of a commercial wind farm in Maine, filed the complaint in the U.S. District Court for the District of Massachusetts.¹⁵¹ The first provision that TransCanada challenged required retail sellers of electricity to solicit long-term power purchase agreements from renewable generation facilities within Massachusetts.¹⁵² In June 2010, the Massachusetts Department of Public Utilities (DPU) issued an emergency regulation repealing the in-state component of the challenged provision.¹⁵³ Subsequently, the Massachusetts DPU issued a second emergency order that allowed out-of-state renewable energy producers to submit bids for long-term purchase agreements.¹⁵⁴ TransCanada's second challenge related to the Massachusetts "Solar Carve-Out," a requirement that a certain percentage of retail electricity come from in-state solar sources.¹⁵⁵ Rather than amending the RPS to cure the alleged defect,

¹⁴⁸ RADER & HEMPLING, *supra* note 17, at app. A-1. Arizona serves as an example of a state that incentivizes in-state renewable generation but does not impose an in-state mandate. See ARIZ. ADMIN. CODE § R14-2-1802 to 1806 (2011) (containing facially neutral language with respect to the location of eligible facilities and providing REC multipliers for in-state generation).

¹⁴⁹ See Maria Gallucci, *Renewable Energy Standards Target of Multi-Pronged Attack*, INSIDECLIMATE NEWS (Mar. 19, 2013), <http://insideclimatenews.org/print/24712>, available at <http://perma.cc/0YbL/Bue4uNX> (discussing a pending dormant Commerce Clause challenge to Colorado's RPS that "is the first that will go directly to the RPS itself . . ."). In June 2013, the Seventh Circuit commented that "Michigan cannot, without violating the commerce clause of Article I of the Constitution, discriminate against out-of-state renewable energy." *Ill. Commerce Comm'n v. Fed. Energy Regulatory Comm'n*, 721 F.3d 764, 776 (7th Cir. 2013). Although at least one commentator believes the Seventh Circuit's decision casts doubt on the constitutionality of Michigan's RPS, another commentator described the remark as a "throw-away comment" unrelated to the question before the court. Steven Weissman, *Court Doesn't Cast Much Doubt on Constitutionality of Michigan's Renewable Portfolio Standard*, LEGAL PLANET (Jun. 13, 2013), <http://legal-planet.org/2013/06/13/court-doesnt-cast-much-doubt-on-the-constitutionality-of-michigans-renewable-portfolio-standard/>, available at <http://perma.cc/Z2NQ-77DD>.

¹⁵⁰ FERSHEE, *supra* note 7, at 83.

¹⁵¹ Stephen C. Braverman, *State Renewable Portfolio Standards and the Commerce Clause*, 25 SPG NAT. RES. & ENV'T 15, 17 (2011).

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

Massachusetts entered into a settlement agreement with TransCanada, which allowed Massachusetts to avoid amending the RPS.¹⁵⁶

B. *The California Low Carbon Fuel Standards*

In October 2012, the U.S. Court of Appeals for the Ninth Circuit heard an appeal from a district court decision regarding the constitutionality of California's low carbon fuel standards (LCFS).¹⁵⁷ The LCFS regulate transportation fuels that are "sold, supplied, or offered for sale in California"¹⁵⁸ Each of these fuels has a different a carbon intensity score.¹⁵⁹ This score corresponds to the life cycle emissions of the fuel, including emissions related to natural resource extraction, the refining process, and the fuel's transportation to California.¹⁶⁰

The plaintiffs in the district court advanced three primary Commerce Clause arguments.¹⁶¹ First, the plaintiffs claimed that the LCFS impermissibly discriminated against out-of-state corn ethanol.¹⁶² The plaintiffs asserted that the standards were facially discriminatory in that, all else being equal, corn ethanol from California will automatically have a lower carbon intensity score than corn ethanol from the Midwest because of the distance the latter corn ethanol must travel before it reaches California.¹⁶³ Second, the plaintiffs argued that the LCFS impermissibly regulated commerce and the channels of interstate commerce.¹⁶⁴ Lastly, the plaintiffs argued that the standards imposed excessive burdens on interstate commerce without producing local benefits.¹⁶⁵

The U.S. District Court for the Eastern District of California held that the standards impermissibly discriminated against out-of-state corn ethanol and regulated extraterritorially in violation of the dormant Commerce Clause.¹⁶⁶ Furthermore, the court held that the plaintiffs

¹⁵⁶ *See id.*

¹⁵⁷ *See* Karen Gullo, *California Asks Court to Reinstate Carbon Fuel Standard*, BUSINESSWEEK (Oct. 16, 2012), <http://www.businessweek.com/news/2012-10-16/california-asks-court-to-reinstate-carbon-fuel-standard>, available at <http://perma.cc/0J6ifPmKugU>.

¹⁵⁸ CAL. CODE REGS. tit. 17, § 95480.1(a) (2013); *Rocky Mountain Farmers Union v. Goldstone*, 843 F. Supp. 2d 1071, 1080 (E.D. Cal. 2011).

¹⁵⁹ CAL. CODE REGS. tit. 17, § 95481(a)(16).

¹⁶⁰ *Rocky Mountain Farmers Union*, 843 F. Supp. 2d at 1080.

¹⁶¹ *Id.* at 1078.

¹⁶² *Id.*

¹⁶³ *Id.* at 1086.

¹⁶⁴ *Id.* at 1078.

¹⁶⁵ *Id.*

¹⁶⁶ *Rocky Mountain Farmers Union*, 843 F. Supp. 2d at 1094.

demonstrated both a likelihood of success on the merits for their Commerce Clause claim and likelihood of irreparable harm, and therefore the court granted a preliminary injunction against the enforcement of the LCFS.¹⁶⁷

The court, relying in part on a table attached to the LCFS that explicitly assigned Midwestern corn ethanol higher carbon intensity scores based *solely* on location, found that the law was facially discriminatory.¹⁶⁸ Holding production and input emissions equal, Midwestern corn ethanol inherently has a higher score due to the distance it must travel to California.¹⁶⁹ As a result, the court applied the strict scrutiny test of virtual *per se* invalidity.¹⁷⁰ Applying the two-part test for discriminatory statutes, the court held that the LCFS violated the dormant Commerce Clause.¹⁷¹ Although the court held that the LCFS serve a legitimate local purpose in reducing greenhouse gas emissions, the California Air Resources Board failed to demonstrate that the purpose could not be served through less discriminatory alternatives.¹⁷²

In October 2013, the Ninth Circuit reversed and held that the LCFS did not facially discriminate against interstate commerce.¹⁷³ The Ninth Circuit reasoned that “to the extent location affects the actual [greenhouse gas] emissions attributable to a default pathway,” the use of location in determining a fuel’s carbon intensity is not discriminatory.¹⁷⁴ Furthermore, the Ninth Circuit held that the use of regional categories, including explicit reference to California’s geopolitical borders, did not constitute facial discrimination because ethanol from every regional category is effectively treated the same under the regulations.¹⁷⁵ In holding that the LCFS are not facially discriminatory, the Ninth Circuit remanded for a determination of whether the LCFS discriminated in purpose or practical effect.¹⁷⁶ The Ninth Circuit instructed that if the district court were to make such a finding, strict scrutiny would once again be the appropriate standard for review, but if the dis-

¹⁶⁷ *Id.* at 1105.

¹⁶⁸ *Id.* at 1087.

¹⁶⁹ *Id.* at 1087.

¹⁷⁰ *Id.* at 1089; see *City of Phila. v. New Jersey*, 437 U.S. 617, 624 (1978).

¹⁷¹ *Rocky Mountain Farmers Union*, 843 F. Supp. 2d at 1093–94.

¹⁷² *Id.*

¹⁷³ *Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070, 1079, 1097 (9th Cir. 2013).

¹⁷⁴ *Id.* at 1089–90.

¹⁷⁵ *Id.* at 1090, 1093.

¹⁷⁶ *Id.* at 1107.

strict court did not make such a finding, the balancing test from *Pike v. Bruce Church, Inc.* would apply.¹⁷⁷

C. *Litigation in the Mid-Atlantic*

In *PPL Energyplus v. Nazarian*, the U.S. District Court for the District of Maryland in 2013 held that a Maryland Public Service Commission (“PSC”) generation order that required the construction of a new natural gas power plant within a specific, local location did not amount to discrimination against interstate commerce or out-of-state interests under the dormant Commerce Clause.¹⁷⁸ The court reasoned that the new generation facility still must compete in the wholesale electricity market against other facilities, and that “the PSC did not act for the explicit purpose of protecting some in-state business . . .”¹⁷⁹

In January 2011, the New Jersey legislature enacted the New Jersey Long-Term Capacity Pilot Project Act (“LCAPP”) to incentivize the local construction efficient generation facilities.¹⁸⁰ The LCAPP explicitly instructed the New Jersey Board of Public Utilities to consider environmental, economic, and community benefits in establishing prequalification criteria for eligible generators.¹⁸¹ Although the plaintiffs relied on evidence that demonstrated a preference for in-state generators and projects with local benefits, the court held they failed to show a violation of the commerce clause because “it appears reasonable that the Board would incentivize construction in areas where reliability concerns are in flux . . . the incentive for community benefits to generators in New Jersey appears reasonable.”¹⁸²

¹⁷⁷ *Id.* at 1078.

¹⁷⁸ No. MJG-12-1286, 2013 WL 5432346, at *23–24, *51–53 (D. Md. Sept. 30, 2013).

¹⁷⁹ *Id.* at *51–52.

¹⁸⁰ N.J. STAT. ANN. § 48:3-98.2(d) (2013) (“[T]he construction of new, efficient generation must be fostered by State policy that ensures sufficient generation is available to the region . . .”); *PPL EnergyPlus v. Hanna*, No. 11-745, 2013 WL 5603896, at *19–20 (D. N.J. Oct. 11, 2013). LCAPP incentivized construction of these generation facilities by requiring public utilities in New Jersey to purchase a portion of the electricity produced by “eligible generators.” N.J. STAT. ANN. § 48:3-98.3(c)(1).

¹⁸¹ N.J. STAT. ANN. § 48:3-98.3(c)(6).

¹⁸² *Hanna*, 2013 WL 5603896, at *37. The New Jersey legislature intended LCAPP to mitigate electric grid reliability concerns that stemmed, in part, from a lack of local generation capacity development. N.J. STAT. ANN. § 48:3-98.2(e). Ostensibly, New Jersey sought to incentivize local generation development because solving the reliability issues through generators located outside of New Jersey would require upgrades to the existing transmission system. *See id.*

IV. THE ABILITY OF RENEWABLE PORTFOLIO STANDARDS TO WITHSTAND DORMANT COMMERCE CLAUSE CHALLENGES

A. *Speculation Concerning Challenges to State Renewable Portfolio Standards Under the Dormant Commerce Clause and Proposed Solutions*

1. Constitutional and Practical Analysis of Different Geographical Preferences

The dormant Commerce Clause is a complex area of law that does not afford easily applied bright-line rules.¹⁸³ As one court noted, “[h]armonizing the guidance set out in the Supreme Court’s many dormant Commerce Clause opinions is not a simple task.”¹⁸⁴ Because different lines of scrutiny can simultaneously be invoked, analysis of renewable energy mandates exacerbates the difficulty of navigating the Supreme Court’s dormant Commerce Clause jurisprudence.¹⁸⁵ Without a substantial body of caselaw on the subject, scholars and practitioners are left to speculate as to how a court would treat various renewable portfolio standard (RPS) geographic preferences.¹⁸⁶ Furthermore, recent litigation brings into focus the tension between states attempting to incentivize local renewable construction and the concerns of private power generators over the marketability of their output.¹⁸⁷ Some have expected additional litigation in this area for years.¹⁸⁸

Although an RPS geographic preference has never been held unconstitutional under the dormant Commerce Clause, commentators have argued that certain preferences are likely to violate the dormant Commerce Clause.¹⁸⁹ For example, many commentators argue that an

¹⁸³ See *Am. Bus. Ass’n v. District of Columbia*, 2 A.3d 203, 213 (D.C. 2010).

¹⁸⁴ *Id.*; Richard Lehfeldt et al., *Commerce Clause Conflict*, 148 No. 12 PUB. UTIL. FORT. 38, 40 (2010).

¹⁸⁵ Lehfeldt et al., *supra* note 184, at 41. The dormant Commerce Clause is particularly complex in the renewable energy context because the regulations can implicate two different lines of scrutiny. See *id.* First, the regulations can seek to prevent the diffusion of in-state benefits. See *id.* Second, the regulations can attempt to stop disfavored articles of commerce at the state borders. See *id.*

¹⁸⁶ See Ferrey, *supra* note 58, at 99.

¹⁸⁷ Lehfeldt, *supra* note 184, at 39.

¹⁸⁸ See Benjamin K. Sovacool, *The Best of Both Worlds: Environmental Federalism and the Need for Federal Action on Renewable Energy and Climate Change*, 27 STAN. ENVTL. L.J. 397, 458 (2008) (“The growing tension between state and federal electricity regulators may mean that a Commerce Clause challenge is impending.”).

¹⁸⁹ See Ferrey, *supra* note 58, at 99; Stiles, *supra* note 6, at 64–65; Patrick R. Jacobi, Note, *Renewable Portfolio Standard Generator Applicability Requirements: How States Can Stop Worrying*

RPS conditioning renewable energy credit (REC) creation on the in-state generation of electricity would almost certainly run afoul of the Commerce Clause.¹⁹⁰ Applying the Court's analysis in *City of Philadelphia v. New Jersey*, this type of facial discrimination is virtually *per se* illegal because it allows the legislature to usurp the role of the free market in directing the flow of interstate commerce.¹⁹¹ For similar reasons, commentators suggest that an RPS conditioning eligibility on the in-region generation of electricity would likely be held unconstitutional.¹⁹²

An RPS can also condition eligibility on the in-state consumption of electricity generated using renewable resources.¹⁹³ Such a requirement might not be discriminatory to the extent that an in-state consumption requirement serves as a proxy for realized local benefits.¹⁹⁴ That argument assumes, however, that if renewable electricity is consumed in-state, the environmental, fuel diversity, and other benefits are also enjoyed locally.¹⁹⁵ Realistically, the purported in-state benefits are susceptible to diffusing across state borders and being shared throughout an entire region.¹⁹⁶ Where it is difficult to demonstrate that benefits actually accrue in-state, a court might find that an RPS conditioning

and Learn to Love the Dormant Commerce Clause, 30 VT. L. REV. 1079, 1111 (2006); see also Kirsten H. Engel, *The Dormant Commerce Clause Threat to Market-Based Environmental Regulation: The Case of Electricity Deregulation*, 26 ECOLOGY L.Q. 243, 272 (1999).

¹⁹⁰ See, e.g., Stiles, *supra* note 6, at 64; Endrud, *supra* note 84; Jacobi, *supra* note 189, at 1111–12.

¹⁹¹ See 437 U.S. 617, 624, 628 (1978). A commentator persuasively argues that in-state generation requirements fit squarely within the Court's *City of Philadelphia* analytical framework. Engel, *supra* note 189, at 273 n.79. First, similar to the ban on importation of garbage, in-state generation requirements halt interstate commerce altogether. *Id.* Second, in both instances, the legislature employed facial discrimination based on the origin of interstate commerce. *Id.*

¹⁹² Compare Ferrey, *supra* note 58, at 85 (noting that a statute discriminating based on state boundaries is likely *per se* illegal), with Robin Kundis Craig, *Constitutional Contours for the Design and Implementation of Multistate Renewable Energy Programs and Projects*, 81 U. COLO. L. REV. 771, 792 (2010) (commenting that multistate agreements that favor participating states are vulnerable to Commerce Clause scrutiny), and Jacobi, *supra* note 189, at 111–15 (arguing that states must disguise in-region location requirements to avoid dormant Commerce Clause scrutiny). In-region location requirements are distinguishable from in-state location requirements considering that electricity from multiple states can meet RPS obligations, but notwithstanding that distinction in-region location requirements facially discriminate against all states *outside* of the region. Endrud, *supra* note 84, at 271; see Craig, *supra*, at 792.

¹⁹³ RADER & HEMPLING, *supra* note 17, at app. A-4 to A-6.

¹⁹⁴ *Id.* at app. A-5. In-state consumption requirements may be a proxy for local benefits because if a generator can show that electricity is physically being consumed in a state, then the state is receiving the benefits of the renewable electricity. *Id.* at app. A-4.

¹⁹⁵ *Id.*

¹⁹⁶ See *id.*

eligibility on in-region benefit delivery would be less discriminatory and equally efficacious.¹⁹⁷ Therefore, if challenged in court, a proposed in-state consumption requirement might be rejected under the no-less-discriminatory-means approach from *Dean Milk Co. v. City of Madison*.¹⁹⁸

There is considerably more optimism about the chances of other, less restrictive, RPS geographic preferences surviving constitutional scrutiny.¹⁹⁹ An RPS that merely required renewable electricity to be sold to in-state consumers would be less likely to violate the dormant Commerce Clause.²⁰⁰ As there is no facial discrimination in such a requirement, the balancing test from *Pike v. Bruce Church, Inc.* would be applied in lieu of strict scrutiny.²⁰¹ Under the balancing test, the local benefits of reduced carbon emissions and diversification of the energy mix would be weighed against the incidental burdens on interstate commerce.²⁰²

Although in-state sales requirements may be upheld as constitutional, not all commentators agree that such requirements are the solution for a state seeking to reap the benefits of its RPS.²⁰³ Conceding that an in-state sales requirement might not foster renewable construction within a given state, some argue that such a requirement would at least promote renewable growth, and the corresponding economic and environmental benefits, within a state's *geographic region*.²⁰⁴ The benefits of reduced carbon output in a neighboring state will not be contained within the geopolitical state borders, but rather will spill over through-

¹⁹⁷ See *Dean Milk Co. v. City of Madison*, 340 U.S. 349, 354 (1951); RADER & HEMPLING, *supra* note 17. If a court found that an RPS requiring benefit delivery offered the same benefit as an in-state consumption requirement, but in a less discriminatory manner, the in-state consumption requirement could not pass constitutional muster. See *Dean Milk*, 340 U.S. at 354.

¹⁹⁸ 340 U.S. at 354. In discussing the viability of an in-state consumption requirement, commentators note that the administration of such a requirement would be highly complex because of the difficulty in tracking the movement of electrons. RADER & HEMPLING, *supra* note 17, at app. A-5.

¹⁹⁹ See Engel, *supra* note 189, at 275–77; Endrud, *supra* note 84, at 271; Jacobi, *supra* note 189, at 1114.

²⁰⁰ See Engel, *supra* note 189, at 275–77; Endrud, *supra* note 84, at 271; Jacobi, *supra* note 189, at 1114.

²⁰¹ *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970); Endrud, *supra* note 84, at 271.

²⁰² See *Pike*, 397 U.S. at 142. An in-state sales requirement may burden out-of-state consumers in the form of higher prices. See Engel, *supra* note 189, at 277. Nonetheless, one commentator argues that the burden is likely not excessive in relation to the benefits. See *id.* Moreover, she argues that the current Supreme Court jurisprudence does not protect out-of-state consumers from price consequences that result from private parties availing themselves of legitimate business opportunities. *Id.* at 278.

²⁰³ See Jacobi, *supra* note 189, at 1114.

²⁰⁴ Engel, *supra* note 189, at 276–77.

out the entire region.²⁰⁵ Likewise, the benefits of increased fuel diversity and the corresponding reduction in price volatility will not be contained within political state borders, but shared throughout the applicable power pool.²⁰⁶ Other commentators are less sanguine and argue that where any generator able to establish a contract path to the state is eligible to participate in the RPS program with no locational requirement, it would be difficult to ensure that the benefits of reduction in carbon emissions are actually enjoyed by the enacting state.²⁰⁷

Finally, an RPS can condition eligibility for participation on the delivery of benefits.²⁰⁸ This approach is less constitutionally vulnerable than an explicit locational requirement because it can be employed without any facial discrimination.²⁰⁹ Commentators reason that “[a]lthough 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.”²¹⁰ Therefore, because of the physical constraints of the existing electrical infrastructure, an in-state benefit delivery requirement operates as a quasi in-region location requirement.²¹¹

2. How Existing RPSs Can Remain in Effect

Although there appears to be concern among commentators that in-state and in-region renewable generation requirements may run afoul of the dormant Commerce Clause, there are several ways RPSs that contain these requirements can remain in effect.²¹² One possibility is lack of dormant Commerce Clause enforcement.²¹³ Alternatively,

²⁰⁵ *Id.*

²⁰⁶ *See id.*

²⁰⁷ Jacobi, *supra* note 189, at 1114 (“[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.”).

²⁰⁸ RADER & HEMPLING, *supra* note 17, at app. A-3.

²⁰⁹ *See id.*

²¹⁰ *Id.*

²¹¹ *See id.* at app. A-3 to A-4. Commentators demonstrate this point by analyzing Maine’s RPS. *Id.* They note that Maine’s RPS restricts RPS eligibility to generators that can deliver renewable electricity into the New England Power Pool. *Id.* The logic behind Maine’s requirement that electricity be deliverable into the New England Power Pool is that if a generator is in close enough proximity to deliver into the Power Pool, Maine is likely to enjoy the myriad benefits associated with the availability of renewable energy capacity. *Id.*

²¹² Endrud, *supra* note 84, at 270.

²¹³ *Id.*

Congress has the authority under the Commerce Clause to expressly allow state regulation that burdens interstate commerce.²¹⁴ At present, geographic mandates in RPSs have not been subjected to federal enforcement claims.²¹⁵ There simply has not been a successful challenge brought against an in-state or in-region generation requirement, but potential litigants may pursue the issue in the future.²¹⁶

A more permanent, albeit more difficult, method of preserving protectionist measures in state RPSs would be explicit authorization by Congress.²¹⁷ At least one commentator has suggested that Congress should consider using its Commerce Clause powers to authorize legally vulnerable RPS programs because the societal benefits of increased renewable capacity outweigh the burdens some RPSs place on interstate commerce.²¹⁸

Lack of enforcement and congressional approval are means of *escaping* scrutiny under the dormant Commerce Clause.²¹⁹ When a federal court first reviews an RPS's constitutionality under the dormant Commerce Clause, as contemporary litigation suggests is imminent, RPSs will have to *survive* constitutional scrutiny.²²⁰

The market participant doctrine is a potential defense for geographic preferences embedded in state RPSs.²²¹ As long as the state is not acting in a regulatory role, the doctrine allows a state to use its "power of the purse" and discriminate against out-of-state interests while favoring and directing money towards in-state businesses and individuals.²²² In the context of RPSs, however, one commentator has stated that "[t]he state is not expending state funds, except for administrative costs. It is not really putting state money into interstate commerce, as the state did in the *Hughes* case . . . it is branding and creating a new state-created product, and regulating utilities with requirements to purchase these products."²²³ Other commentators also doubt the

²¹⁴ *W. & S. Life Ins. Co. v. State Bd. of Equalization*, 451 U.S. 648, 652–53 (1981).

²¹⁵ Endrud, *supra* note 84, at 270.

²¹⁶ See Sovacool, *supra* note 188.

²¹⁷ See *W. & S. Life Ins. Co.*, 451 U.S. at 652–53.

²¹⁸ Endrud, *supra* note 84, at 285.

²¹⁹ *Id.* at 270.

²²⁰ Ferrey, *supra* note 58, at 85; Sovacool, *supra* note 188.

²²¹ See *Or. Waste Sys. V. Dep't of Env'tl. Quality*, 511 U.S. 93, 114 (1994); *S. Cent. Timber Dev., Inc. v. Wunnicke*, 467 U.S. 82, 93 (1984) ("[I]f a State is acting as a market participant, rather than as a market regulator, the dormant Commerce Clause places no limitations on its activities.").

²²² NOWAK & ROTUNDA, *supra* note 116, at 333–34.

²²³ Ferrey, *supra* note 58, at 104.

market participant doctrine's applicability to RPSs.²²⁴ Some question whether states can create multistate entities that enjoy the same protections as states themselves enjoy under the doctrine.²²⁵

If a geographic preference in an RPS did not fit into the market participant exception, the goal of a state defending the claim would be to avoid the application of strict scrutiny.²²⁶ Failure to avoid strict scrutiny might virtually ensure that the RPS would be struck down as unconstitutional.²²⁷

B. *An In-Region Location Requirement Conditioning Outside Participation on Delivery into the Control Area Survives Strict Scrutiny*

Assuming the market participant doctrine is inapplicable, the treatment of California's low carbon fuel standards (LCFS) in *Rocky Mountain Farmers Union v. Goldstene* may lend credence to speculation that an RPS in-region location requirement violates the dormant Commerce Clause, depending on the district court's findings on remand.²²⁸ With the exception of generators in adjacent control areas that deliver electricity into the ISO-New England (ISO-NE) control area, Massachusetts's RPS contains such a requirement.²²⁹ Notwithstanding the probability that a reviewing court would apply strict scrutiny to Massachusetts's RPS based on the explicit reference to location, the state can argue that the RPS falls into the narrow category of facially discriminatory yet constitutional state laws.²³⁰

Massachusetts's in-region location requirement serves legitimate local purposes, and those purposes could not be adequately served by reasonable non-discriminatory alternatives.²³¹ There are functional differences between renewable fuels and fossil fuels that render non-discriminatory alternatives inadequate to serve Massachusetts's legiti-

²²⁴ Craig, *supra* note 192, at 795–96.

²²⁵ *Id.* at 795.

²²⁶ Ferrey, *supra* note 58, at 106.

²²⁷ *Or. Waste Sys.* 511 U.S. at 101.

²²⁸ See 843 F. Supp. 2d 1071, 1089 (E.D. Cal. 2011) (applying strict scrutiny to California's low carbon fuel standards).

²²⁹ See 225 MASS. CODE REGS. 14.05(5) (2013) (describing conditions for RECs produced outside of ISO-NE to be eligible under Massachusetts's RPS).

²³⁰ See *New Energy Co. of Ind. v. Limbach*, 486 U.S. 269, 278 (1988) (“Our cases leave open the possibility that a State may validate a statute that discriminates against interstate commerce by showing that it advances a legitimate local purpose that cannot be adequately served by reasonable nondiscriminatory alternatives.”).

²³¹ See 225 MASS. CODE REGS. 14.05(5); RADER & HEMPLING, *supra* note 17, at 34.

mate local purposes.²³² In addition to the functional difference between renewable fuels and fossil fuels, the physics of the interstate transmission grid render distant generation facilities inadequate substitutes for local generation facilities.²³³

1. Massachusetts's In-Region Requirement Serves Multiple Local Purposes

Electricity generation accounts for approximately seventy percent of the United States's aggregate greenhouse gas emissions and also produces other air pollutants that adversely affect human health.²³⁴ To the extent that Massachusetts's RPS promotes the construction of renewable generation capacity in New England and the renewable generation displaces fossil fuel based generation, environmental benefits will accrue to the state.²³⁵ Even if fossil fuel generation is displaced in a neighboring state rather than inside of Massachusetts, the environmental benefits will be enjoyed throughout the region and not confined within geopolitical state borders.²³⁶ Where a state has the unquestioned authority to provide for the health and safety of its citizenry, Massachusetts's efforts to promote investment in local renewable energy serve a legitimate local purpose.²³⁷

Massachusetts's RPS also serves the legitimate local purpose of diversifying the fuels comprising New England's wholesale electricity mix.²³⁸ Nearly fifty percent of ISO-NE's available generation capacity depends on natural gas as a fuel source.²³⁹ This dependence on a single fuel source leaves ratepayers in Massachusetts vulnerable to fluctuations in the price of natural gas.²⁴⁰ Adding renewable energy sources to New England's wholesale electricity portfolio will help insulate Massachusetts ratepayers from volatility in the natural gas markets by reducing the region's dependence on natural gas.²⁴¹

Although Massachusetts's RPS might seem analogous to the statute struck down in *Wyoming v. Oklahoma*, the environmental and fuel diver-

²³² DWORKIN ET AL., *supra* note 28, at 531 (analyzing differences between renewable fuels and fossil fuels).

²³³ See WONG, *supra* note 55, at 8–9.

²³⁴ Reitze, *supra* note 2; Capiello, *supra* note 3.

²³⁵ See Reitze, *supra* note 2; Capiello, *supra* note 3.

²³⁶ See RADER & HEMPLING, *supra* note 17, at 34.

²³⁷ See *Dean Milk*, 340 U.S. at 354.

²³⁸ See Engel, *supra* note 189, at 266.

²³⁹ NEW ENGLAND'S WHOLESALE ELECTRICITY MARKETS, *supra* note 66.

²⁴⁰ See *id.*

²⁴¹ See Engel, *supra* note 189, at 266.

sity benefits make Massachusetts's RPS distinguishable.²⁴² In invalidating Oklahoma's ten percent domestic coal requirement, the Supreme Court held that state statutes discriminating against interstate commerce are invalid "unless the discrimination is demonstrably justified by a valid factor *unrelated* to economic protectionism."²⁴³ The Court proceeded to invalidate Oklahoma's requirement because the state's central justification involved the preservation of local industry.²⁴⁴ The enrichment of local interests, however, is "almost never a legitimate local purpose."²⁴⁵ Conversely, Massachusetts's in-region location requirement serves two goals that are entirely unrelated to economic protectionism.²⁴⁶

2. Non-Discriminatory Alternatives Do Not Adequately Serve Massachusetts's Local Interests

Commentators have suggested that RPSs conditioning eligibility on local benefit delivery, such as Maine's, are constitutional.²⁴⁷ Previous scholarship correctly points out that these RPSs avoid facially discriminatory language, and therefore are likely to avoid strict scrutiny under the dormant Commerce Clause.²⁴⁸ RPS statutes like Maine's are undoubtedly *more* likely to be upheld as constitutional because they avoid explicit locational requirements, but Massachusetts still can argue that such RPSs are not adequate alternatives for its qualified in-region location requirement.²⁴⁹

Maine's RPS considers a renewable generation resource eligible if its power *can* physically be delivered into the ISO-NE control area.²⁵⁰ This is considered a proxy for the ability to deliver benefits.²⁵¹ In contrast, Massachusetts considers a generation facility eligible if it is located within ISO-NE *or* if it is in a control area adjacent to ISO-NE *and* deliv-

²⁴² See 502 U.S. 437, 458–59 (1992) (striking down an Oklahoma statute requiring in-state coal generation facilities to use ten percent Oklahoma-mined coal); Engel, *supra* note 189, at 266.

²⁴³ *Wyoming*, 502 U.S. at 454 (emphasis added).

²⁴⁴ *Id.* at 456.

²⁴⁵ *Maine v. Taylor*, 477 U.S. 131, 148 (1986).

²⁴⁶ See *supra* notes 222–228 and accompanying text.

²⁴⁷ See RADER & HEMPLING, *supra* note 17, at app. A-4; Jacobi, *supra* note 189, at 1130.

²⁴⁸ See RADER & HEMPLING, *supra* note 17, at app. A-4; Jacobi, *supra* note 189, at 1130.

²⁴⁹ See 225 MASS. CODE REGS. 14.05(5) (describing conditions of out-of-region generators in Massachusetts's RPS); RADER & HEMPLING, *supra* note 17, at app. A-4; Jacobi, *supra* note 189, at 1130.

²⁵⁰ ME. REV. STAT. ANN. tit. 35A, § 3210(2)(B)(1) (2010).

²⁵¹ See RADER & HEMPLING, *supra* note 17, at app. A-3 to A-4.

ers electricity into ISO-NE.²⁵² The phraseology of Maine's RPS is plainly less discriminatory than Massachusetts's.²⁵³ Massachusetts imposes additional burdens on out-of-region generators and categorically excludes imports from control areas that are not adjacent to ISO-NE.²⁵⁴ Notwithstanding the appearance that Maine's RPS is a less discriminatory substitute for Massachusetts's RPS, Massachusetts can argue that Maine's RPS does not produce precisely the same benefits in regulating to protect health and safety.²⁵⁵

The electricity of out-of-region generators that *can* be delivered into ISO-NE will not *necessarily* be delivered into the region. Insofar as Maine's RPS treats deliverability as a proxy for local benefits, Massachusetts's RPS takes a more exacting approach in determining what generators do and do not produce local benefits.²⁵⁶ Under Maine's RPS, renewable generation output that does not settle in ISO-NE can count towards a retail seller's RPS requirements.²⁵⁷ The delivery requirement in Massachusetts's RPS simply ensures that the output used to satisfy a retail seller's RPS obligations *actually* produces the benefit of fuel diversity in ISO-NE during the hour the REC was created.²⁵⁸

Even in arguing that benefit delivery requirements are facially neutral, commentators recognize that such requirements "clearly will exclude distant generators" because they cannot produce benefits for the state.²⁵⁹ A fact-based benefit delivery test can therefore have the same practical effect as Massachusetts's RPS in that *both* exclude distant generators.²⁶⁰ Indeed, depending on the facts considered and the test's objective criteria, if Massachusetts were to adopt a case-by-case approach, it is possible that some generators in the PJM region may not meet the benefit delivery criteria.²⁶¹ In that case, Massachusetts's inclusion of all generators in adjacent control areas may be *less* burdensome

²⁵² 225 MASS. CODE REGS. 14.05(5).

²⁵³ Compare *id.* (imposing additional requirements on out-of-region generators), with ME. REV. STAT. ANN. tit. 35A, § 3210(2)(B)(1) (facially neutral with respect to a generator's location).

²⁵⁴ See 225 MASS. CODE REGS. 14.05(5).

²⁵⁵ See NOWAK & ROTUNDA, *supra* note 116.

²⁵⁶ Compare 225 MASS. CODE REGS. 14.05(5)(b) (requiring verification of firm transmission into ISO-NE), with ME. REV. STAT. ANN. tit. 35A, § 3210(2)(B)(1) (requiring only that the electricity can physically be delivered into ISO-NE Control Area).

²⁵⁷ See ME. REV. STAT. ANN. tit. 35A, § 3210(2)(B)(1).

²⁵⁸ See 225 MASS. CODE REGS. 14.05(5)(b).

²⁵⁹ See RADER & HEMPLING, *supra* note 17, at app. A-3.

²⁶⁰ See *id.* at app. A-3 to A-4.

²⁶¹ See *id.*

and restrictive than a fact-based benefits delivery test.²⁶² Ultimately, both approaches have the practical effect of treating distant generators differently from local generators.²⁶³

3. Practical Considerations Justify Massachusetts's Exclusion of Generators Located Beyond Adjacent Control Areas

Renewable fuel sources are typically not located in close proximity to areas with a significant demand for electricity.²⁶⁴ Unlike the fossil fuels conventionally used for electricity generation, renewable fuel sources are relatively difficult, if not impossible, to effectively transport.²⁶⁵ Fossil fuels such as coal and natural gas can be extracted in remote locations, stored, and then efficiently transported to generation facilities in compact channels such as railcars or pipelines.²⁶⁶ Essentially, there is an important functional difference between renewable electricity and fungible fossil fuels.²⁶⁷

Because renewable fuel sources are not readily transportable like fossil fuels, the most efficient means of producing renewable electricity is to convert the fuel (wind, solar, hydro) to electricity *at the source*.²⁶⁸ The electricity then must immediately be sent to demand centers through transmission lines because unlike fossil fuels, which maintain their potential energy, electricity is not a form of energy that can be stored on a large scale.²⁶⁹

When renewable fuels are converted to electricity at the source, and then delivered to markets using transmission lines, electricity is lost along the way.²⁷⁰ Electricity traveling through transmission lines faces resistance that represents friction, and the resistance causes energy to be lost in transmission.²⁷¹ Resistance and transmission losses are positively correlated with the length of transmission lines.²⁷² Therefore,

²⁶² See 225 MASS. CODE REGS. 14.05(5).

²⁶³ See *id.*; RADER & HEMPLING, *supra* note 17, at app. A-3 to A-4.

²⁶⁴ Powers, *supra* note 5, at 606 (noting that renewable generation facilities are typically not located near areas of significant power consumption).

²⁶⁵ See DWORKIN ET AL., *supra* note 28, at 531–32.

²⁶⁶ See *Fossil Fuels*, INST. FOR ENERGY RESEARCH, <http://www.instituteforenergyresearch.org/energy-overview/fossil-fuels> (last visited Apr. 4, 2013), available at <http://perma.cc/0b98iWw3kwE>.

²⁶⁷ See DWORKIN ET AL., *supra*, note 28, at 531–32.

²⁶⁸ See *id.* at 532.

²⁶⁹ *Id.* at 531–32.

²⁷⁰ WONG, *supra* note 55.

²⁷¹ *Id.*

²⁷² *Id.*

holding all else equal, a distant renewable facility cannot displace as much fossil fuel based generation as a local renewable facility.²⁷³ Massachusetts's RPS acknowledges and attempts to avoid this problem.²⁷⁴

CONCLUSION

State and local statutes that facially discriminate against interstate commerce are virtually *per se* unconstitutional, but *Maine v. Taylor* leaves open narrow exceptions to this rule. An RPS's in-region location requirement can survive strict scrutiny under the dormant Commerce Clause. First, this requirement will provide the enacting state benefits in the form of reduced air pollutant emissions, diversity in the wholesale electricity mix, and a degree of price stability. Second, these goals will most likely not be achieved with equal efficacy by available, non-discriminatory alternatives. In addition, fossil fuels can be stored for later consumption, and are therefore distinguishable from the transient energy provided by renewable sources. Furthermore, electricity losses in transmission diminish the utility of distant generation facilities relative to local generation facilities. RPS provisions conditioning eligibility on the delivery of local benefits do not provide the same assurance of benefit delivery as an in-region location requirement, and moreover, most likely are not an available alternative in practice. Although it may be difficult for states to prove the constitutionality of an in-region location requirement, it is not impossible.

²⁷³ See *id.*

²⁷⁴ See 225 MASS. CODE REGS. 14.05(5)(b).

