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Constitutional Disputes in Multiple Dimensions: The Washington Post, The Wall Street Journal, and Sustainable Energy Law

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CONSTITUTIONAL DISPUTES IN MULTIPLE DIMENSIONS: *THE WASHINGTON POST*, THE *WALL STREET JOURNAL*, AND SUSTAINABLE ENERGY LAW

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"The Biggest Fight over Renewable Energy Is Now in the States."[1]

- Washington Post

"Regulate first, think later . . . renewable energy . . . electricity prices and . . . rolling blackouts."

- Wall Street Journal

I. ONE CAN'T GET THERE FROM HERE

On March 25, 2013, *The Washington Post* ran a story entitled *The Biggest Fight over Renewable Energy Is Now in the States*, which

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1. Brad Plumer, *The Biggest Fight over Renewable Energy Is Now in the States*, WASH. POST, Mar. 25, 2013, http://www.washingtonpost.com/blogs/wonkblog/wp/2013/03/25/the-biggest-fights-over-renewable-energy-are-now-happening-in-the-states.

describes how a large portion of the "action on clean energy in the United States is happening at the state level."[2] This is the critical, if often overlooked, structural element of the U.S. sustainable energy future. States are at the core of U.S. renewable/sustainable energy policy; the federal government has not enacted a significant new renewable energy law in more than a decade, other than tax incentives.[3] Many states have advanced five different types of renewable energy mechanisms, which provide incentives for renewable energy.[4] *The Washington Post* is correct that (1) the center of gravity for renewable energy policy is now in the states, rather than the federal government, and (2) there is a very big fight. That fight is not only over the policy described by the *Post*, but has critical constitutional dimensions regarding state and federal roles under the Supremacy Clause of the Constitution.

On March 29, 2013, *The Wall Street Journal* published an article criticizing states for treating renewable power produced outside their states unequally to that sold inside the state.[5] Such treatment, in which numerous states are engaging, raises core constitutional questions under the dormant Commerce Clause of the Constitution. The *Journal* article put in cryptic terms this state geographic discrimination which disallows the interstate market in renewable energy from functioning smoothly, noting, "[a]bout three-quarters must come from [in-state sources] even though other states can produce renewables at lower cost . . . ."[6] The *Journal* article focused on the policy aspects of what, in reality, is a major constitutional issue that is now in the courts regarding state sustainable energy issues.

States are responsible for the primary legislative and regulatory initiatives designed to promote sustainable energy and renewable energy in the United States. The federal government has not passed significant domestic energy legislation since the Energy Policy Act

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2. *Id.*

3. *See infra* Part III.B.

4. *See infra* Part IV.

5. *California's Coming Green-Outs: The Wind and Solar Mandate Means Future Power Shortages*, WALL ST. J., Mar. 29, 2013, http://online.wsj.com/news/articles/SB10001424127887324582804578344500414630778.

6. *Id.*

of 2005[7]—which was relatively modest in scope. The states have undertaken most renewable energy policy initiatives in the past two decades, sculpting sustainable energy policy around five legal and policy initiatives:[8]

- Net Metering: in eighty-five percent of states
- Renewable portfolio standards: in sixty percent of states
- Renewable System Benefit Charges: in thirty-three percent of states
- Carbon and greenhouse gas (GHG) regulation: in twenty percent of the states
- Feed-In Tariffs: in less than ten percent of states

Each of these can be a powerful stimulant to sustainable renewable energy deployment in a market economy; each provides a financial inflow at either the point of project construction or generation of

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7. Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005) (codified as amended in scattered sections of 25, 26, and 42 U.S.C. (2012)). The Energy Policy Act of 2005 included an estimated $9 billion over five years in tax incentives distributed among renewable energy, conservation, and traditional energy sources, including several alternative technology vehicle credits, enactment of three investment credits for clean coal, and the extension of the production tax credit. MOLLY F. SHERLOCK & MARGOT L. CRANDALL-HOLLICK, CONG. RESEARCH SERV., R41769, ENERGY TAX POLICY: ISSUES IN THE 112TH CONGRESS 26 (2011). There also was the Energy Independence and Security Act of 2007, but it primarily provided incentives for greater efficiency, "increased the target fuel efficiency for combined fleets of cars and light trucks, increased renewable fuel standards, and increased a number of energy-efficiency standards for household and commercial appliance equipment." MOLLY F. SHERLOCK, CONG. RESEARCH SERV., R43206, ENERGY TAX POLICY: ISSUES IN THE 113TH CONGRESS 28 (2013), *available at* http://www.fas.org/sgp/crs/misc/R43206.pdf. Additionally, the American Recovery and Reinvestment Act of 2009 extended the production tax credit (PTC) "through 2012 for wind and 2013 for other eligible technologies, the energy credit (ITC) was expanded for small wind property, and taxpayers were given the option of receiving a direct grant from the Treasury in lieu of tax credits under the Section 1603 grant program." *Id.* The American Taxpayer Relief Act of 2012 changed the expiration date for the PTC from when equipment was placed-in-service to a start date of construction for all qualifying technologies, and extended the PTC for wind for one year, which was estimated to cost $12.2 billion over the ten-year window. *Id.* at 31.

8. *See infra* Part IV.

renewable electric power.[9] The state acts as a regulator, and never owns the renewable power generation capital equipment nor itself transacts any sale of the power produced. And it is this action as a regulator, rather than a market participant, which raises constitutional issues with discriminatory state renewable energy initiatives.[10]

Each of these state measures torques the operation of the electric energy market through regulation, in contrast to the federal tax policy of collecting general taxes and reallocating benefits through tax incentives to specific projects.[11] Tax policy does not raise the same legal issues as state regulation of economic markets. This article marshals the facts: first, federal tax policy now predominately supports renewable energy as opposed to fossil fuels.[12] Second, the shift to predominate tax support of renewable energy occurred at the end of the prior administration.[13]

As the *Post* article notes, there is now a significant fight. Some citizen groups, governors, and other elected officials have begun to highlight cross-subsidies occurring through these state practices from electric consumers to entities designated by state regulation as recipients:[14] the President of NRG Energy noted that lower cost solar and wind power is forcing utilities to spread their increasing fixed costs over fewer customers, increasing the cost of service to remaining customers.[15] And consumers are often confronted with no choice. In more than two-thirds of the states, there is no alternative for retail power consumers other than to purchase all of their electric power from the monopoly utility and incur any invisible additional costs associated with state incentive mechanisms bulleted above.[16] There has also been litigation centered around this topic:[17]

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9. *See infra* Part IV.F.

10. *See* STEVEN FERREY, ENVIRONMENTAL LAW: EXAMPLES AND EXPLANATIONS 162–64 (6th ed. 2006) (examining the market participant exception).

11. *See infra* Part IV.F.1.

12. *See infra* Part III.

13. *See infra* Figure 2 and accompanying text.

14. *See infra* Part IV.F.2.

15. Andrew Engblom, *NRG CEO: Distributed Generation a 'Mortal Threat to Utilities'*, SNL ENERGY (Mar. 22, 2013, 10:21 AM), http://www.snl.com/InteractiveX/Article.aspx?cdid=A-17263021-14130.

16. *See generally State-By-State*, RETAIL ENERGY SUPPLY ASS'N, http://www.resausa.org/states (last visited Jan. 25, 2014) (thirty-six states still

- The first of these five state initiatives, Feed-in tariffs (FiTs), which exceed the "avoided cost" (which all FiTs do), has been struck as illegal.[18]
- The second of these five initiatives, renewable portfolio standards, is unconstitutional in the method that some states have implemented it, and in 2013, it was declared unconstitutional by the federal Court of Appeals in the Seventh Circuit.[19]
- The third of these five initiatives, system benefit charges, as implemented in some states, is at least *de jure* questionable on its face.[20]
- A recent federal adjudicatory order casts uncertainty on the fourth of these five initiatives, net metering.[21]
- The fifth of these five state initiatives, carbon regulation, has at least one state withdrawing participation due to a perceived lack of benefit given the cost to power consumers,[22] and California's program has lost several, and to date prevailed on appeal on some, constitutional lawsuits against it which have proceeded to a decision on the merits.[23]

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maintain monopolies on the sale of electric power). See also *The History of Retail Energy Competition*, RETAIL ENERGY SUPPLY ASS'N, http://www.resausa.org/retail-energy/retail-energy-history (last visited Jan. 25, 2014), for a history of energy monopolies in the United States.

17. *See infra* Part VI.

18. FERC, as an administrative executive branch agency, does not determine unconstitutionality as courts do, however, it administers the same federal laws and Constitutional requirement of the Constitutional exercise of federal versus state power. A court would have adjudicated similar facts as an unconstitutional exercise of state power; FERC, as an executive agency, hold FiTs illegal. *See* Cal. Pub. Utils. Comm'n, 132 FERC ¶ 61,047 (2010) (Order on Petitions for Declaratory Order).

19. Ill. Commerce Comm'n v. Fed. Energy Regulatory Comm'n, 721 F.3d 764 (7th Cir. 2013).

20. *See infra* notes 336–38.

21. *See* MidAmerican Energy Co., 94 FERC ¶ 61,340 (2001).

22. *See infra* Part IV.F.2.

23. *See infra* notes 217–20.

Both *The Washington Post* and *The Wall Street Journal* have highlighted key renewable energy policy issues. From a legal perspective, the constitutional and legal issues confronting state sustainable energy policy are fundamentally at the core of our federalist legal system. After examining federal incentives for sustainable energy policy, this article delves in detail into the legal nuances of the methods by which states have implemented these five primary state initiatives for sustainable energy policy. Of note as we proceed, each state could implement most of these five initiatives in manners and modes that are more resilient against constitutional or legal challenges, but the majority of states have not seized such opportunities.[24]

Part II of this article examines the critical role of electric power and the environmental impact of its use both domestically and internationally in a newly carbon-constrained world. Part III sets the federal backdrop by surveying and quantifying federal tax and grant initiatives for renewable energy, and documenting the significant shift from support of fossil fuels to support of renewable energy. Part IV outlines each of the five major state initiatives, and surveys their variations as implemented by the states, as well as their potential legal Achilles' heels under the Constitution. Part V lays the legal foundation, examining the contours of the Supremacy Clause and the Dormant Commerce Clause of the Constitution, and recent decisions of the United States Supreme Court on these matters. Part VI applies these constitutional requirements to the five primary state sustainable energy initiatives, highlighting recent challenges, court decisions, and the potential vulnerability of state programs. Part VII synthesizes these elements into a prescription of what states can do to navigate around constitutional challenge and sustain state policy.

So while this article charts a detailed roadmap of sustainable energy initiatives, landmarks, detours, and legal prohibitions, it also develops the critical counterpoint that the states can avoid legal challenges to their particular sustainable energy policies. Indeed, there *is* a way to get to a sustainable future from where we are now without tripping over constitutional prohibitions.

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24. *See infra* Part VI; Steven Ferrey, *Solving the Multi-Million Dollar Constitutional Puzzle Surrounding State 'Sustainable' Energy Policy* (forthcoming 2014).

II. AT THE ZOO: FEEDING AND TRAINING THE CARBON ELEPHANT

Amid the current policy stalemates between the federal executive and legislative branches, the U.S. electric industry is one of the biggest industries in the world with $363 billion of sales in 2012.[25] The industry is large and its impact is even larger. Electricity production accounts for less than five percent of U.S. economic activity, yet accounts for approximately one-quarter of emissions of certain criteria air pollutants.[26]

Power derived from burning fossil fuels producing electric power releases large amounts of CO_2 into the environment;[27] ninety-eight percent of anthropogenic CO_2 emissions are from combustion of fossil fuels.[28] Fossil fuel-fired power plants and petroleum refineries collectively emit nearly forty percent of our national GHG emissions—significantly more than the thirty percent emanating from the transportation sector.[29] Fossil fuel generation accounts for sixty-four percent of total human-made atmospheric CO_2 and has increased significantly since 1990.[30] GHG annual emissions increased about

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25. For U.S. Department of Energy, Energy Information Administration data, see *Table 2.3. Revenue from Retail Sales of Electricity to Ultimate Customers*, U.S. ENERGY INFO. ADMIN., *available at* http://www.eia.gov/electricity/annual/html/epa_02_03.html (last visited Mar. 16, 2014).

26. According to the Environmental Protection Agency (EPA) in 2004, power generation was responsible for sixty-seven percent of the oxides of sulphur (SO_x), twenty-two percent of the oxides of nitrogen (NO_x) and thirty-four percent of the carbon dioxide (CO_2) emissions in the United States. *See also Climate Change: GHG Emissions*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/climatechange/emissions/co2_human.html.

27. The amount of carbon released per unit of usable energy decreased as human populations moved from wood to coal as the dominant CO_2-releasing fuel in the late nineteenth century, and again when humans moved from coal to oil in the mid-twentieth century. Humans now will move toward natural gas in the future. *See* STEVEN FERREY, LAW OF INDEPENDENT POWER § 2.1 (30th ed. 2013).

28. U.S. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, EMISSION OF GREENHOUSE GASES IN THE UNITED STATES 1998, ES1 (U.S. Dep't of Energy et al. 1999).

29. *See* U.S. ENVTL. PROT. AGENCY, ADDRESSING GREENHOUSE GAS EMISSIONS, http://www.epa.gov/airquality/ghgsettlement.html (last visited Nov. 15, 2011) (discussing EPA activity pertaining to regulation of GHGs under NSPS program).

30. ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, REPORT NO. DOE/EIA-0573(2005/ES), EMISSIONS OF GREENHOUSE GASES IN THE UNITED STATES 2005:

seventy percent from 1970 to 2004, with the combustion of fossil fuels accounting for seventy percent of GHG emissions, electric power generation responsible for forty-percent of these CO_2 emissions, and coal-fired electric power generation accounting for about seventy percent of the emissions in this sector.[31]

Not only is this a very large "elephant" in the policy "room," but its presence is growing larger as world electric power demand continues to increase dramatically.[32] The share of fossil fuels converted to create electricity increased over the last century from one percent in 1900 to twenty-five percent in 1990.[33] In 1949, only eleven percent of CO_2 emissions in the United States came from the electricity sector; in 2007 it was more than one-third.[34] Global CO_2 emissions are rising each year,[35] and global energy-related emissions are expected to increase fifty-seven percent from 2005 to 2030.[36] At

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EXECUTIVE SUMMARY 2–3 (2007), http://www.eia.doe.gov/oiaf/1605/ggrpt/summary/pdf/0573(2005)es.pdf; *Frequently Asked Global Change Questions*, CARBON DIOXIDE INFO. ANALYSIS CTR., http://cdiac.ornl.gov/faq.html (last updated Dec. 11, 2013).

31. Joëlle de Sépibus, *The Liberalisation of the Power Industry in the European Union and its Impact on Climate Change: A Legal Analysis of the Internal Market in Electricity* 2–4 (Swiss Nat'l Ctr. of Competence in Res., Working Paper No. 2008/10, 2008), http://phase1.nccr-trade.org/images/stories/Brown%20Bags/de20Sepibus_EU20lib20CC—final.pdf.

32. *See, e.g.*, INT'L ENERGY AGENCY, WORLD ENERGY OUTLOOK 2004, at 29 (2004), http://www.worldenergyoutlook.org/media/weowebsite/2008-1994/WEO2004.pdf.

33. Steven Ferrey, *Power Future*, 15 DUKE ENVTL. L. & POL'Y F. 261, 267 (2005).

34. *See* ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, ENERGY-RELATED CARBON DIOXIDE EMISSIONS FROM THE RESIDENTIAL AND COMMERCIAL SECTORS, BY FUEL TYPE, 1949–2007 (2007), http://www.eia.doe.gov/oiaf/1605/ggrpt/excel/historical_co2.xls.

35. *See* Ray Purdy, *The Legal Implications of Carbon Capture and Storage under the Sea*, SUSTAINABLE DEV. L. & POL'Y, Fall 2006, at 22, 23.

36. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-151, INTERNATIONAL CLIMATE CHANGE PROGRAMS: LESSONS LEARNED FROM THE EUROPEAN UNION'S EMISSIONS TRADING SCHEME AND THE KYOTO PROTOCOL'S CLEAN DEVELOPMENT MECHANISM 48 (2008), http://www.gao.gov/assets/290/283397.pdf.

current rates of energy development, energy-related CO_2 emissions in 2050 will be 250% of their current levels.[37]

Because federal energy policy has been unclear for the last two decades, critical time has elapsed. Global emissions will need to have peaked by 2015 in order to have a reasonable chance of limiting global warming to no more than two degrees from historic levels.[38] However, the opposite is occurring. Emissions grew at an average annual rate of 3.1% from 2000 to 2011, and were fourteen percent higher already in 2012 than the 2020 target.[39] Emissions rose by six percent in 2010, the largest amount on record.[40]

Even the goal of an average 2020 eighteen percent reduction from 1990 levels by Annex I developed countries as required by the Kyoto Protocol is not nearly enough to avoid a two degree Centigrade rise in global temperature.[41] A report concluded that reduction of carbon intensity needs to achieve 600% more than it is achieving for the next thirty-nine years to be able to hold temperature rise to two degrees Centigrade.[42] Instead, the report predicts a six degree Centigrade rise in global temperature by the end of the century.[43]

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37. INT'L ENERGY AGENCY, ENERGY TECHNOLOGY PERSPECTIVES 2006: IN SUPPORT OF THE G8 PLAN OF ACTION 25 (2006), http://www.iea.org/publications/freepublications/publication/etp2006.pdf.

38. Robin Chase, Op-Ed., *Get Real on Global Warming Goals*, BOS. GLOBE, Apr. 22, 2008, at A15; *see also* James Hansen et al., *Target Atmospheric CO_2: Where Should Humanity Aim?*, 2 OPEN ATMOSPHERIC. SCI. J. 217, 229 (2008) (noting that by waiting until 2018 to prevent the "growth of greenhouse gas emissions" may actually make it almost impossible to avoid the catastrophic effects of warming).

39. Andrew Childers, *U.N. Report Say Greenhouse Gas Emissions Were 14 Percent Higher than 2020 Target*, 43 ENV'T REP. (BNA) 3036 (Nov. 30, 2012).

40. *Greenhouse Gases Rise by Record Amount*, THE GUARDIAN, Nov. 3, 2011, http://www.theguardian.com/environment/2011/nov/04/greenhouse-gases-rise-record-levels.

41. *Summary of the DOHA Climate Change Conference: 26 November–8 December 2012*, EARTH NEGOTIATIONS BULL., Dec. 11, 2012, at 26, http://www.iisd.ca/download/pdf/enb12567e.pdf.

42. Leo Johnson, *Foreword* to PRICEWATERHOUSECOOPERS, TOO LATE FOR TWO DEGREES? LOW CARBON ECONOMY INDEX 2012, at 1 (2012), http://www.pwc.com/en_GX/gx/sustainability/publications/low-carbon-economy-index/assets/pwc-low-carbon-economy-index-2012.pdf.

43. *Id.*

So how are we "feeding" this energy elephant? Most countries are using fossil fuels, not renewable power resources, to satisfy this exponential increase in demand for more power. Choice of today's power generation technology translates directly to the size of tomorrow's carbon footprint. It is expected that global energy use will increase by about sixty percent between 2010 and 2040.[44] The International Energy Agency forecasts that by 2030, world demand for energy will grow by almost sixty percent, and fossil fuel sources will still supply eighty-two percent of the total while non-carbon renewable energy sources are projected to supply less than fifteen percent.[45] However, just because the energy animal is large, this does not mean that it cannot be trained. The Energy Information Administration in 2008 concluded that the electric power sector offered the most cost-effective opportunities to reduce CO_2 emissions, compared to the transportation sector.[46] This is where national and state policy must intersect. Both will be examined in the next two parts.

III. STARTING AT THE TOP: SHIFTING FEDERAL TAX INCENTIVES

To promote sustainable energy investments in an economy that is market-driven, investment in energy is encouraged by federal tax incentives. Before analyzing federal tax policy incentives for energy, the next section briefly examines the composition of U.S. energy use.

A. Energy Use in the United States

The majority of energy produced in the United States is derived from fossil fuels. "In 2010, fossil fuels accounted for [seventy-eight percent] of U.S. primary energy production."[47] Table 1 shows the

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44. *2013 International Energy Outlook: Overview*, U.S. ENERGY INFO. ADMIN, http://www.eia.gov/forecasts/ieo/world.cfm (last visited Mar. 16, 2014).

45. *Id.* fig.16.

46. Charles Davis, *Energy Estimates Show Rise in CO_2 Emissions, Offer Mitigation Options*, CARBON CONTROL NEWS, June 30, 2008, at 20.

47. *See generally* MOLLY F. SHERLOCK, CONG. RESEARCH SERV., R41953, ENERGY TAX INCENTIVES: MEASURING VALUE ACROSS DIFFERENT TYPES OF ENERGY RESOURCES, at Summary (2012), http://www.fas.org/sgp/crs/misc/R41953.pdf.

breakdown of this statistic.[48] "The remaining primary energy production is attributable to nuclear electric and renewable energy resources, with shares of 11.2% and 10.7%, respectively." Currently, the electric system relies primarily on coal-fired resources: 406 U.S. coal-fired power plants produce about ninety-five percent of the coal-fired power in the United States, accounting for approximately half of total U.S. electricity production, at an average cost of 3.2 cents/Kwh; approximately ten percent of these older plants produce about forty-three percent of the CO_2 emissions.[49]

Table 1: Primary Energy Production by Source[50]

2010

Source	Quadrillion Btu	Percent of Total
Fossil Fuels		
Coal	22.1	29.4%
Natural Gas	22.1	29.4%
Crude Oil	11.7	15.6%
Natural Gas Plant Liquids	2.7	3.6%
Nuclear		
Nuclear Electric	8.4	11.2%
Renewable Energy		
Hydro-Electric Power	2.5	3.3%
Geothermal	0.2	0.3%
Solar/PV	0.1	0.1%
Wind	0.9	1.2%
Biomass	4.3	5.7%
Total	**75.0**	**100%**

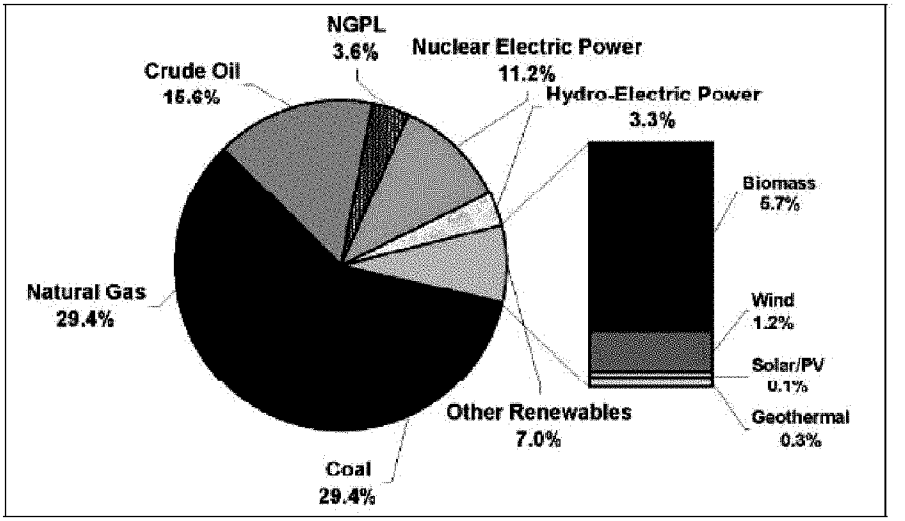
48. *Id.* at 4 tbl.1.

49. *What Cost Energy? What Market Prices Fail to Reveal*, 22 ELECTRICITY J. 3, 3 (2009).

50. SHERLOCK, *supra* note 47, at 4 tbl.1.

These data are presented graphically in Figure 1.[51] Biomass was the largest source among renewable technologies in 2010, accounting for 5.7% of overall primary energy production or more than half of renewable energy production.[52] Among renewable sources, hydro-electric power followed at 3.3%, and wind, geothermal, and solar were responsible for 1.2%, 0.3%, and 0.1% of 2009 primary energy production, respectively.[53]

Figure 1: 2010 Primary Energy Production by Source[54]



B. Federal Tax Incentives

The primary federal energy incentives are delivered through tax credits and depreciation. There is nothing atypical about this: world governments subsidize gasoline, electricity and other energy in the amount of $1.9 trillion a year.[55] The predominate direction of U.S.

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51. *Id.* at 4 fig.1.
52. *Id.* at 4.
53. *Id.*
54. *Id.* at 4 fig.1.
55. Press Release No. 13/93, Int'l Monetary Fund, IMF Calls for Global Reform of Energy Subsidies: Sees Major Gains for Economic Growth and the Environment (Mar. 27, 2013), http://www.imf.org/external/np/sec/pr/2013/pr1393.htm; *see also* Howard Schneider, *IMF: Governments Need to End Energy*

federal tax incentives has shifted recently from underwriting coal to supporting renewable power. The value of federal tax support for the energy sector was estimated to be $19.1 billion in 2010 and $16.6 billion in 2012.[56] Of this, approximately one-third ($6.3 billion) was given for tax incentives for the use of renewable fuels.[57] "Another $6.7 billion can be attributed to tax-related incentives supporting various renewable energy technologies,"[58] and targeted tax incentives for the use of fossil energy resources amounted to $2.4 billion.[59] "In 2010, nearly half of the tax incentives for renewables benefitted biofuels,"[60] and "from 2009 onwards, the increased costs associated with incentives for renewable electricity are largely attributable to the Section 1603 grants in lieu of tax credit program."[61]

Subsidies, WASH. POST (Mar. 27, 2013), http://articles.washingtonpost.com/2013-03-27/business/38059145_1_climate-change-energy-subsidies-imf-officials.

56. SHERLOCK, *supra* note 47, at 6.

57. *Id.* at 6–7 tbl.2.

58. *Id.*

59. *Id.*

60. *Id.* at 10 ("Of the estimated $19.1 billion in energy tax provisions in 2010, an estimated $6.3 billion, or [thirty-three percent], went toward supporting biofuels.").

61. *Id.*

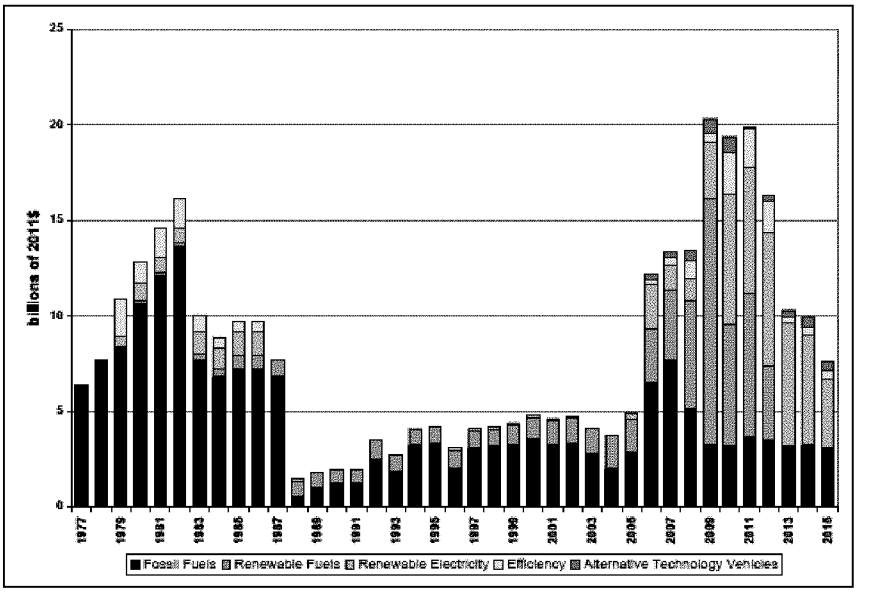
> The Section 1603 grant option is not available for projects that began construction after December 31, 2011. However, since grants are paid out when construction is completed and eligible property is placed in service, outlays under the Section 1603 program are expected to continue through 2017. . . . Outlays under the Section 1603 grant program are projected to [be $4.1 billion for FY2012] . . . . Under current law, wind property must be placed in service prior to the end of calendar year 2012 to qualify for the Section 1603 grant. To qualify for the grant, eligible biomass, geothermal energy, landfill gas, trash, hydropower, and marine and hydrokinetic property must be placed in service by the end of 2013. By FY2015, outlays under the Section 1603 grant program are projected to fall to $1.2 billion. The placed-in-service deadline for solar, geothermal heat pump, fuel cell, microturbine, and combined heat and power (CHP) property is the end of 2016. For FY2017, projected outlays are $0.1 billion.

Id. For additional background, see PHILLIP BROWN & MOLLY F. SHERLOCK, CONG. RESEARCH SERV., R41635, ARRA SECTION 1603 GRANTS IN LIEU OF TAX CREDITS FOR RENEWABLE ENERGY: OVERVIEW, ANALYSIS, AND POLICY OPTIONS (2011), http://assets.opencrs.com/rpts/R41635_20110208.pdf.

As of August 2011, renewable developers had received $28.5 billion in grants and loan guarantees from the Obama Administration.[62] About a quarter of this amount flowed through the U.S. Treasury Section 1603 grant program.[63] The remainder is commitments through the Section 1705 loan guarantee program for thirty-two different projects.[64] As of May 2013, the 1603 program had approved 9000 grants for $18.5 billion, $17 billion of which were received for wind projects.[65] Figure 2 displays the cost of tax incentives for various fossil fuel and renewable technologies over an almost forty-year period ending in fiscal year 2015. A recent shift to incentives for renewable power is visible, first occurring during the Bush Administration in 2008.

Figure 2: Projected Annual Cost of Energy-Related Tax Incentives[66]

Fiscal Year 1977–Fiscal Year 2015



62. Jeffrey Ryser, *Cash, Loan Guarantee Programs for Renewable Development Now Total up to $28.5 Billion*, ELECTRIC UTIL. WK., Aug. 8, 2011, at 3.

63. *Id.*

64. *Id.*

65. Lydia Beyoud, *Report: Some Renewable Energy Groups May Have Double-Dipped on Energy Credits*, ENERGY AND CLIMATE REP. (BNA) (Feb. 27, 2014).

66. SHERLOCK, *supra* note 47, at 11 fig.2.

Table 2 of the Congressional Research Service Report below displays the estimated revenue cost of various federal energy tax incentives for recent years.[67] Renewable energy has dominated fossil fuels for the past five years. Table 3 summarizes and contrasts energy production and energy tax incentives.[68] The analysis presented in these tables highlights only energy subsidies provided through the tax code, and does not examine direct or indirect energy subsidies.[69] Although 44.9% of generation in 2010 can be attributed to coal, coal received an estimated ten percent of tax incentives.[70] Again, renewable energy dominates fossil fuels for the recent years of data presented.

Table 2: Estimated Revenue[71]

Fiscal Year 2010–Fiscal Year 2012

Cost of Energy Tax Provisions in $ Billions

Provision	**2010**	**2011**	**2012**
Fossil Fuels			
Expensing of Exploration and Development Costs for Oil and Gas	0.7	0.8	0.8
Percentage Depletion for Oil and Gas	0.5	0.9	0.9
Amortization of Geological and Geophysical Costs for Oil and Gas Exploration	0.1	0.1	0.1
Fifteen-Year Depreciation for Natural Gas Distribution Lines	0.1	0.1	0.1

67. *Id.* at 6–7 tbl.2 (displaying the Joint Committee on Taxation and the Department of the Treasury data).

68. *Id.* at 8–9 tbl.3 (calculated using data presented above, *supra* Tables 1 & 2).

69. *Id.* at 14. In contrast to U.S. Energy Information Agency (EIA) studies, this includes Section 1603 grants in the place of tax credits as a tax-related provision. The EIA lists the Section 1603 grants in place "of tax credits as a direct expenditure." *Id.*

70. *Id.* at 14. This is similar to the EIA's data for 2007, "where 47.6% of generation was attributable to coal, while coal received 12.7% of the total federal financial support for electricity production." *See also id.* at 8 tbl.3.

71. *Id.* at 6–7 tbl.2.

Provision	**2010**	**2011**	**2012**
Election to Expense fifty percent of Qualified Refinery Costs	0.7	0.8	0.7
Amortization of Air Pollution Control Facilities	0.1	0.2	0.2
Credits for Investments in Clean Coal Facilities	0.2	0.2	0.2
Excise Tax Credits for Alternative Fuel Mixtures	N/A[72]	0.2	0.2
Subtotal, Fossil Fuels	*2.4*	*3.3*	*3.2*
Renewables			
Production Tax Credit (PTC)	1.4	1.4	1.6
Investment Tax Credit (ITC)	(i)[73]	0.5	0.5
Accelerated Depreciation for Renewable Energy Property	0.3	0.3	0.3

Table 3: Comparing Energy Production and Energy Tax Incentives

Fossil Fuels and Renewables, 2010[74]

	Production		**Tax Incentives**	
	Quadrillion Btu	**Dollar % of Total**	**Billions of Dollars**	**Dollar % of Total**
Fossil Fuels	58.5	78.0%	$2.4	12.6%
Renewables[a]	8.1	10.7%	$13.0	68.1%
Renewables (excluding hydro-	5.6	7.4%	$13.0	68.1%

72. N/A "indicates that the provision was not listed in the 2010 tax expenditure tables." *Id.* at 8.

73. "(i) indicates a positive estimated revenue loss of less than $50 million." *Id.*

74. *Id.* at 8–9 tbl.3.

electric)				
Renewables (excluding biofuels and related tax incentives)	6.2	8.3%	$6.7	35.1%
Renewables (excluding hydro-electric and biofuels and related tax incentives)	3.7	4.9%	$6.7	35.1%

Table 4 presents subsidies to electricity production by fuel type.[75] Again, as of this date, fossil fuels receive a much smaller percentage allocation than their share of electric production. Correspondingly, renewable sources receive a much larger share than their share of electric production.

Table 4: Subsidies to Electricity Production by Fuel Type, 2010

(Dollar values in millions)

	Production		**Federal Financial Incentives**		
Fuel Type	**FY2010 Net Generation (billion kWh)**	**% of Total**	**Tax Subsidies**	**Other Subsidies**	**% of Total**
Coal	1,851	44.9%	486	703	10.0%
Natural Gas and Petroleum Liquids	1,030	25.0%	583	72	5.5%
Nuclear	807	19.6%	908	1,591	21.0%
Renewables	425	10.3%	1,347	5,212	55.3%
Biomass	57	1.4%	54	61	1.0%

75. *Id.* at 15 tbl.4. The data is taken from the EIA. *Id.*

Geothermal	16	0.4%	1	199	1.7%
Hydropower	257	6.2%	17	198	1.8%
Solar	1	0.0%	99	869	8.2%
Wind	95	2.3%	1,178	3,808	42.0%
Transmission and Distribution	(i)	(i)	58	924	8.2%
Total	**4,091**	**100%**	**3,382**	**8,502**	**100%**

The Energy Information Administration (EIA) of the U.S. Department of Energy assembles its energy subsidy data in the tables below in a different manner than the tables above. EIA includes the Section 1603 grants in lieu of tax credits in its direct expenditures category. Tables 2–4 and the analysis above include Section 1603 grants as tax-related federal financial support. "In 2010, $4.25 billion in Section 1603 grants in lieu of tax credits were awarded to renewable energy projects" while the shares of electricity produced using natural gas, petroleum, and nuclear resources, "and the share of federal financial support for electricity received by these resources, also remained similar between 2007 and 2010."[76] Tables 5 and 6 distinguish the federal subsidies attributed to electric production and to non-electric energy production, respectively.

Table 5: Subsidies to Electricity Production by Fuel Type, 2007[77]

(Dollar values in millions)

	Production		**Federal Financial Incentives**		
Fuel Type	**FY2007 Net Generation (billion kWh)**	**% of Total**	**Tax Subsidies**	**Other Subsidies**	**% of Total**
Coal	1,946	47.6%	264	590	12.7%

76. *Id.* at 15.
77. *Id.* at 16 tbl.5.

Refined Coal	72	1.8%	2,156		32.0%
Natural Gas and Petroleum Liquids	919	22.5%	203	24	3.4%
Nuclear	794	19.4%	199	1,068	18.8%
Renewables	360	8.8%	724	284	14.9%
			Total Subsidy Value		
Biomass	40	1.0%	36		0.5%
Geothermal	15	0.4%	14		0.2%
Hydropower	258	6.3%	174		2.6%
Solar	1	0.0%	14		0.2%
Wind	31	0.8%	724		10.7%
Landfill Gas	6	0.1%	8		0.1%
Municipal Solid Waste	9	0.2%	1		0.0%
Transmission and Distribution	(i)		735	500	18.3%
Total	**4,091**	**100%**	**4,281**	**2,466**	**100%**

Table 6: Energy Subsidies Not Related to Electricity Production, 2010[78]

(Dollar values in millions)

	Production		**Federal Financial Incentives**	
Fuel Type	**Fuel Production Not Used For Electricity**	**% of Total**	**Total Subsidies**	**% Total**

78. *Id.* at 17–18 tbl.6. This data is from the Congressional Research Services and the EIA. *Id.*

	(quadrillion Btu)			
Coal	2.94	8.3%	169	1.6%
Natural Gas and Petroleum Liquids	28.55	80.3%	2,165	20.7%
Biomass/ Biofuels	3.87	10.9%	7,646	73.2%
Geothermal	0.06	0.2%	73	0.7%
Solar	0.10	0.3%	169	1.6%
Other Renewables	0.02	0.0%	226	2.2%
Total	**35.54**	**100%**	**10,448**	**100%**

Significant federal tax credits continue. The value of federal production tax credits is compared, apples-to-apples basis, in Table 7.[79] Despite the importance of the production tax credit, renewable power has additionally provided other significant incentives in certain states.[80]

79. JOINT COMM. ON TAXATION, REPORT NO. JCX-23-10, PRESENT LAW ENERGY-RELATED TAX PROVISIONS AND PROPOSED MODIFICATIONS CONTAINED IN THE PRESIDENT'S FISCAL YEAR 2011 BUDGET 118 tbl.8 (2010), *available at* https://www.jct.gov/publications.html?func=startdown&id=3678.

80. *See infra* Part IV. According to the Department of Energy Funded Database of State Incentives for Renewables & Efficiency (DSIRE), twenty-six states offer some type of solar energy tax incentive with over fifty-one different types of programs. Overall there are 228 different types of rebates available in the states for renewable energy. *See* RUSTY HAYNES, N.C. SOLAR CTR., STATE SOLAR POLICY: CURRENT STATUS AND FUTURE OUTLOOK, Apr. 15, 2008, http://api.ning.com/files/1YF4B3g-6mfrZr1o7LywgF1ukJTsLq*VEi4OQOfOkdqMCPFDaaGD5sumpGbsnn8mdcmFDwG5b7dorgN*TXTdJzMdSGlEK6f*/DSIREHaynesStateSolarPolicyCurrentStatusAndFutureOutlookMarch2008.pdf.

Table 7: Comparison of Selected Federal Energy Production Tax Credits[81]

	Statutory Credit Amount	**Credit Amount in Dollars per MMBtus of**	**Credit Amount in Dollars per MMBtus of Displaced Heat**
Wind power	2.2 cents per kilowatt-	$6.45	$2.23
Geothermal power	2.2 cents per kilowatt-hour	$6.45	$2.23
Open-loop biomass	1.1 cents per kilowatt-hour	$3.23	$1.12
Advanced nuclear power	1.8 cents per kilowatt-hour	$5.28	$1.82
Ethanol	45 cents per gallon	$5.92	$5.92
Biodiesel	$1 per gallon (expired 12/31/09)	$8.45	$8.45

In the past seven years, there have been substantial U.S. federal tax incentives for renewable energy development. The fossil fuels related tax incentives are estimated by the Congressional Research Service to reduce federal tax revenues by $20.6 billion between 2013 and

81. JOINT COMM. ON TAXATION, *supra* note 79.

2017; during the same period "the total cost of tax-related provisions supporting the production of renewable energy (tax expenditures and grants designed to replace tax expenditures) is estimated to be $39.6 billion."[82]

Notwithstanding these tax credits and incentives, the United States has been criticized as ranking near the bottom of the thirty-four OECD (Organisation for Economic Co-operation and Development) countries (along with Canada, Mexico, and Chile) in terms of effective national energy tax rates to limit national carbon dioxide emissions.[83] The United States was criticized for not taxing energy use for heating, process use, and electricity, although some U.S. states do tax some of these uses.[84] However, the states have put forth significant effort to promote renewable energy and limit carbon emissions.

IV. STATE REGULATORY INCENTIVES FOR RENEWABLE POWER

With the federal government principally engaged in tax incentives for U.S. sustainable power development, additional regulatory initiatives are undertaken by a significant percentage of states. As mentioned above, many states across the country have undertaken five renewable energy legal policy initiatives over the past two decades.[85] The following part will explore these initiatives in more detail.

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82. SHERLOCK & CRANDALL-HOLLICK, *supra* note 7, at 14–15. "Of this total for renewable energy, $17.2 billion is for outlays under the Section 1603 grants in lieu of tax credits program." The cost of tax expenditure and excise tax incentives for renewables, not counting the Section 1603 grants, is estimated to be $22.4 billion from 2013 and 2017. *Id.* "Historically, the primary tax incentive for renewable electricity has been the production tax credit (PTC). The American Recovery and Reinvestment Act . . . substantially modified this incentive, allowing projects eligible for the renewable PTC or investment tax credit (ITC) to claim a one-time grant in lieu of the tax credits." *Id.*

83. OECD, TAXING ENERGY USE: A GRAPHICAL ANALYSIS 31 (2013), *available at* http://www.keepeek.com/oecd/media/taxation/taxing-energy-use_9789264183933-en#page1; Rick Mitchell, *U.S. Lags on Using Energy Taxes to Achieve Environmental Goals, OECD Data Shows*, 36 INT'L ENV'T REP. (BNA) 228, 228–29 (2013).

84. Mitchell, *supra* note 83.

85. *See supra* Part I.

A. Renewable Portfolio Standards

Renewable Portfolio Standards (RPS) require electric utilities and other retail electric providers to include in their retail sales a specified percentage of electricity supply annually from renewable energy sources.[86] Such standards create and account for Renewable Energy Credits (RECs) associated with production of each megawatt-hour of generation from an eligible renewable energy facility. RECs can be associated with utility-owned generation, or regulated utilities, and retailers can acquire tradable RECs from independent power producers; the RECs exist as a separate commodity to be traded and transferred, if allowed by the state.[87]

As a matter of global policy, fourteen nations mandate RPS programs, and additionally, several nations allow their states to implement RPS.[88] Twenty-nine U.S. states and the District of Columbia have some form of RPS.[89] These mandatory RPS programs cover about half of nationwide retail electricity sales.[90] The RPS programs in the states are very different in terms of what technologies qualify. The required state percentage of energy delivered from renewables currently ranges from two to forty

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86. *See generally Renewable Portfolio Standards*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/agstar/tools/funding/renewable.html (last updated Sept. 27, 2012).

87. *See Renewable Energy Certificates*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/greenpower/gpmarket/rec.htm (last updated Oct. 16, 2012).

88. KPMG INT'L, TAXES AND INCENTIVES FOR RENEWABLE ENERGY 47–49 tbl.2 (2012), http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/taxes-incentives-renewable-energy-2012.pdf (countries using Renewable Portfolio Standards (RPS) include Belgium, Canada (some states), Italy, Japan, Portugal, South Korea, Sweden, the United Kingdom, and the United States (twenty-nine states); developing countries include Chile, Romania, China, Philippines, and Kyrgyzstan).

89. *See Solar Carve-Outs in Renewable Portfolio Standards*, DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org/solar/solarpolicyguide/?id=21 (last visited Jan. 14, 2014).

90. RYAN WISER & GALEN BARBOSE, LAWRENCE BERKELEY NAT'L LABORATORY, RENEWABLE PORTFOLIO STANDARD IN THE UNITED STATES: A STATUS REPORT WITH DATA THROUGH 2007, at 1 (2008), http://emp.lbl.gov/sites/all/files/REPORT%20lbnl-154e-revised.pdf.

percent of annual retail sales in different state programs.[91] The current RPS standards are projected to add 76,750 MW of additional renewable generation by 2025.[92] In order to comply with the RPS requirements, electric utilities can purchase RECs from eligible renewable generation.

Most states allow solar, wind, biomass, and landfill gas resources to qualify in RPS programs; states are less consistent regarding eligibility for biogas, municipal solid waste, geothermal, all hydro resources, fuel cells, and ocean tidal renewable resources to qualify.[93] Some states include co-generation while West Virginia and Massachusetts include coal gasification.[94] Ohio qualified as eligible for renewable RPS credits for the recapturing of gas wasted in blast furnace operation and for residual electricity production.[95] In 2012, Oregon proposed making nuclear power eligible for renewable credits.[96] Many RPS programs target only new renewable projects commencing operation after enactment of the state RPS program.[97] Solar-specific RPS designs in eleven states and the District of

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91. *See Summary Tables*, DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org/summarytables (last visited Jan 14. 2014).

92. Plumer, *supra* note 1.

93. WISER & BARBOSE, *supra* note 90, at 6 n.10; see also *Rules, Regulations & Policies for Renewable Energy*, DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org/summarytables/rrpre.cfm (last visited Mar. 16, 2014), which maintains an electronic inventory by each state of eligible renewable technologies for RPS (click on each state and summary to view the list of eligible technologies in each state).

94. *See generally* DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org (last visited Jan. 14, 2014); *see also RPS and APS Program Summaries*, MASS. EXECUTIVE OFF. OF ENERGY & ENVTL. AFF., http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/rps-aps/rps-and-aps-program-summaries.html (last visited Jan. 14, 2014).

95. Ohio Rev. Code Ann. § 3706.25 (LexisNexis 2013); Bob Matyi, *Ohio Legislation to Pit Steelmaker's Project Against Wind Energy Developers over RECs*, ELECTRIC UTIL. WK., Mar. 5, 2012 (Ohio did so "to strengthen the economy and put more people to work.").

96. Geoffrey Craig, *State Renewable Mandates Unlikely to Be Reduced or Repealed this Year, Analysts Say*, ELECTRIC UTIL. WK., Mar. 12, 2012.

97. *See Summary Tables*, *supra* note 91 (click on each state to find regulations for that individual state).

Columbia include solar or distributed generation set-asides for a percentage of eligible projects.[98]

As a sustainable policy tool, these RPS programs have had an impact: over fifty percent of the non-hydro renewable capacity additions in the United States for the decade from 1998 through 2007 occurred in states with RPS programs; "[ninety-three percent] of these additions came from wind power, [four percent] from biomass, [two percent] from solar, and [one percent] from geothermal" resources.[99] RPS programs have been characterized as a form of back-door renewable subsidies.[100]

While effective as a policy tool, several state RPS programs can be legally vulnerable. There are a number of the twenty-nine states with RPS which have incorporated credit multipliers, restrictions, or preferences to promote in-state/in-region generation of power, to the exclusion of external power. They constitute approximately three-quarters of those states with RPS programs.[101] This geographic discrimination for the location of generation of power that creates RECs falls into the following categories:

- Eight of the twenty-nine RPS states, or twenty-seven percent, have REC multipliers for in-state generation: Arizona,[102] Colorado,[103] Delaware,[104] Maine,[105] Michigan,[106] Missouri,[107] Nevada,[108] and Washington.[109]
- Four of the RPS states, or fourteen percent of the RPS states, including two that also provide for a geographically discriminatory REC multiplier, have either

98. WISER & BARBOSE, *supra* note 90, at 1.

99. *Id.*

100. Robert Glennon & Andrew Reeves, *Solar Energy's Cloudy Future*, 1 ARIZ. J. ENVTL. L. & POL'Y 93, 106 (2010).

101. Twenty-three of twenty-nine RPS states have some form of geographic discrimination.

102. ARIZ. ADMIN. CODE § R14-2-1806 (2012).

103. COLO. REV. STAT. § 40-2-124 (2013).

104. DEL. CODE ANN. tit. 26, § 356 (2013).

105. ME. REV. STAT. tit. 35-A, § 3605 (2013).

106. MICH. COMP. LAWS § 460.1039 (2013).

107. MO. REV. STAT. § 393.1030(1) (2013).

108. NEV. REV. STAT.§ 704.7822 (2013).

109. WASH. ADMIN. CODE § 194-37-110 (2013).

a requirement or preference for in-state generation: California,[110] Colorado,[111] North Carolina,[112] and Ohio.[113]

- Four of the twenty-nine RPS states give program preferences to the use of in-state manufactured products or in-state labor forces: Arizona,[114] Delaware,[115] Michigan,[116] and Montana[117]
- Eleven of the twenty-nine RPS states, representing thirty-eight percent of RPS states, have a requirement for in-region, rather than in-state, geographic location of generation to create RECs, including one of the states that also has in-state multipliers and one with an in-state preference: Connecticut,[118] Illinois,[119] Maine,[120] Maryland,[121] Massachusetts,[122] New Hampshire,[123] North Carolina, Ohio,[124] Oregon,[125] Pennsylvania,[126] and Rhode Island.[127]
- Some states have multiple multipliers and preferences.
- Only seven of the twenty-nine states have no geographic preference in their laws.

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110. *See California: Incentives/Policies for Renewables & Efficiency*, DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CA25R&re=1&ee=1 (last updated Oct. 30, 2013) (explaining that a maximum of twenty-five percent of RPS compliance can be achieved through the use of tradable renewable energy credits; therefore, the remainder of the RPS compliance must be attained through in-state power sales).

111. COLO. REV. STAT. § 40-2-124(e)(II)–(III) (2013).

112. N.C. GEN. STAT. § 62-133.8(b)(2)(e) (2013).

113. OHIO REV. CODE ANN. § 4928.64(B)(3) (LexisNexis 2013).

114. ARIZ. ADMIN. CODE § R14-2-1807 (2012).

115. DEL. CODE ANN. tit. 26, § 351 (2013).

116. MICH. COMP. LAWS § 460.1001 (2009).

117. MONT. CODE ANN. § 69-3-2005(3)(a) (2013).

118. CONN. GEN. STAT. § 16-245a(b) (2013).

119. 20 ILL. COMP. STAT. § 3855/1-56(b) (2013).

120. 65-407-311 ME. CODE R. § 6 (LexisNexis 2011).

121. MD. CODE REGS. 20.61.03.03 (2014).

122. MASS. GEN. LAWS. ch. 25A, § 11F (2013).

123. N.H. REV. STAT. ANN. § 362-F:6 (2013).

124. OHIO REV. CODE ANN. § 4928.64 (West 2012).

125. OR. REV. STAT. ANN. § 469A.135(1)(b) (2012).

126. 73 PA. CONS. STAT. ANN. § 1648.4 (West 2013).

127. R.I. GEN. LAWS § 39-26-4(d) (2013).

About three-quarters of California's thirty-three percent renewable energy goal must come from California pursuant to state regulation. Parts V and VI will examine why these in-state preference RPS programs raise constitutional issues.[128]

B. System Benefit Charges

A system benefits charge (SBC) is a per-kWh power surcharge imposed on all retail electricity consumers within a state utility's service territory through monthly utility bills, which creates an additional state-controlled or administered energy fund.[129] These state renewable trust funds distribute money to subsidize various renewable energy resource projects and technologies pursuant to state legislation.[130] Approximately one-third of U.S. states have enacted SBC and "public benefit funds:"[131] fifteen states, plus the District of Columbia are included, where a small surcharge is added on electricity bills. [132] The funds created range in size from less than $1 million to greater than $300 million per year.[133] A number of these states, either explicitly or as a matter of practice, will only fund sustainable energy projects within their own states, even though

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128. *See infra* Parts V, VI.

129. *See generally Public Benefits Funds for Renewables*, DATABASE OF ST. INCENTIVES FOR RENEWABLE ENERGY: FEBRUARY 2013, http://www.dsireusa.org/documents/summarymaps/PBF_Map.pdf (last visited Mar. 16, 2014); *see New York Incentives/Policies for Renewables & Efficiency: Systems Benefits Charge*, DATABASE OF ST. INCENTIVES FOR RENEWABLE ENERGY, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NY07R (last updated Jan. 14, 2013) ("New York's system benefits charge (SBC), established in 1996 by the New York Public Service Commission (PSC), supports energy efficiency, education and outreach, research and development, and low-income energy assistance. To support the SBC program, the state's six investor-owned electric utilities collect funds from customers through a surcharge on customers' bills.").

130. *Id.*

131. ELIZABETH DORIS ET AL., NAT'L RENEWABLE ENERGY LAB., TECHNICAL REPORT NREL/TP-6A2-46667, STATE OF THE STATES 2009: RENEWABLE ENERGY DEVELOPMENT AND THE ROLE OF POLICY 65–66 (2009), http://www.nrel.gov/docs/fy10osti/46667.pdf.

132. *See Public Benefits Funds for Renewables*, *supra* note 129.

133. *See State Clean Energy Funds Fact Sheet*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/chp/policies/funds_fs.html (last updated June 7, 2013).

power from all sources inside and outside the state are taxed to create the SBC fund.[134]

C. Net Metering

Net metering is federally mandated in twenty countries,[135] as well as in forty-three states in the United States.[136] Net metering is the most utilized state incentive for renewable power nationwide.[137] Net metering is an accounting concept typically applied to renewable sources of distributed power self-generated on the utility customer's side of the retail utility meter.[138] Each of the forty-three state net metering programs is distinct. There are differences as to allowable sizes of units, the vintage and longevity of credits, whether credits can be cashed out, eligible classes of customers, and eligible technologies.[139]

If net metered, the distributed power generation unit is connected to a retail bi-directional meter that measures the amount of total energy used and produced by the customer. When the customer uses electricity from the distribution company, the meter runs forward; when more electricity is produced from the facility than is consumed by the customer, the excess is sent to the electricity grid, running the meter in reverse direction and reversing the net accounting of power flow.[140]

By turning the meter backwards, since only a single rate applies to a single meter, net metering effectively compensates the generator at, or near, the full retail rate (which includes approximately two-thirds

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134. *See Public Benefits Funds for Renewables*, *supra* note 129.

135. *See* RENEWABLE ENERGY POLICY NETWORK FOR THE 21ST CENTURY, RENEWABLES 2012 GLOBAL STATUS REPORT 70–72 (2012), http://www.map.ren21.net/GSR/GSR2012_low.pdf (developed countries utilizing net metering include Belgium, Canada (some states), Denmark, Greece, Israel, Japan, Portugal, and the United States (forty-three states); developing countries include Mexico, Guatemala, Jordan, Pakistan, and Philippines).

136. *Public Benefits Funds for Renewables*, *supra* note 129.

137. *Id.*

138. *Net Metering*, SOLAR ENERGY INDUS. ASS'N, http://www.seia.org/policy/distributed-solar/net-metering (last visited Mar. 16, 2014).

139. *See Rules, Regulations & Policies for Renewable Energy*, *supra* note 93 (click on individual states under the "Net Metering" column).

140. *Net Metering*, *supra* note 138.

of the retail bill that is attributable to transmission, distribution, and taxes) for transferring just the wholesale energy commodity—the power itself.[141] This multiplies by several-fold the effective value or revenue earned from the wholesale power transaction. While most states compensate the generator for excess generation at the avoided cost or market-determined wholesale rate, some states compensate the wholesale energy seller for the excess power at or very near the much higher retail rate.[142]

Net metering operates as an incentive, applied to renewable power sources or combined heat and power units (CHP or cogeneration) built on the site of the customer. All utilities in all states have been required by federal law for the past six years to make net metering available to all requesting customers.[143] Nonetheless, not all states do this. Some states that allow net metering put a limit on the percentage of total power that can be net metered to avoid the problem of net metering power back to the utility when the utility does not need the power.[144]

In Massachusetts, as in some other states, there is a statutory cap on net metering capacity.[145] There is an exception of an additional

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141. As to whether electricity is a "good" or a "service" and how it should be treated under the law, see STEVEN FERREY, THE NEW RULES: A GUIDE TO ELECTRIC MARKET REGULATION 211–31 (2000).

142. Twenty-three of the forty-three net metering states will pay a cash value to net-metered customers for surplus credits. Three of these twenty-three states will calculate the cash value payment at or near a higher rate retail rate, rather than at avoided cost. 220 MASS. CODE REGS. 18.00 (2013) (setting forth transferable credit amounts in Massachusetts at slightly below the retail power sale rate); Letter from Thomas J. May, President, NSTAR Electric, Terms and Conditions—Distribution Service M.D.T.E. No. 200A (Jan. 20, 2006), *available at* http://www.nstaronline.com/docs3/tariffs/200.pdf (setting forth NSTAR utility net metering rates in Massachusetts); MINN. STAT. ANN. § 216B.164 (West 2013) (option for the customer to either receive a payment or receive a credit on its next month bill at the retail rate); Wis. Pub. Serv. Comm'n, Order No. 05-EP-6 (Sept. 18, 1992) (renewable energy source paid at the utility's retail rate); *see also* R.I. GEN. LAWS §39-26-6 (2013); *see generally Public Benefits Funds for Renewables*, *supra* note 129.

143. Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005) (codified as amended in scattered sections of 25, 26, and 42 U.S.C. (2012)).

144. Mary Powers, *Maryland Regulatory Staff Takes Side of Solar Producers on Net Metering Issues*, ELECTRIC UTIL. WK., Aug. 16, 2010, at 24.

145. 220 MASS. CODE REGS. 18.07 (2013).

three percent of peak load for net metering facilities where the Host Customer is a municipality or other government entity.[146] There is an aggregate limit of 10 Mw for the particular municipality undertaking net metering at multiple locations.[147] Massachusetts has a virtual net metering that is more far-reaching than the other states[148] because net metering credits can be transferred to other customers in the utility service territory. A host customer may revise as often as twice per year its designated recipients of net metering credits and the percentage of credits that they receive.[149] Net metering makes a cross-subsidy from all ordinary consumers to net-metered customers.

D. Feed-In-Tariffs

FiTs are requirements imposed on regulated utilities to purchase certain designated power generation, typically renewable power generation or CHP at prices set at values well in excess of the market value of wholesale power. Therefore, the purchasing utilities are forced to "buy high" in terms of other electric power available in the market, which may conflict with other pressure on utilities to economize prudently in the cost of the power that they supply and charge to their typically captive retail customers. FiTs administratively torque the operating power market in favor of the sellers of certain power.

FiTs are the most used incentive for renewables in both non-United States developed and developing countries.[150] Feed-in tariffs have

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146. *Id.*

147. *Id.*

148. 220 MASS. CODE REGS. 8.04(2), 11.04(7), 18.03 (2013).

149. Mass. Dep't. Pub. Utils., Order Adopting Model Net Metering Tariff, 09-03-A § V(A) (Aug. 20, 2009), *available at* http://www.env.state.ma.us/dpu/docs/electric/09-03/82009noiord.pdf; *see also* 220 CMR 16.00 (2002).

150. KPMG INT'L, *supra* note 88, at 46–49 tbl.2. For FiT programs, developed countries include Australia (some states), all of the European Union countries except Belgium, Netherlands and Norway; Italy, Japan, Croatia, Slovakia, Slovenia, Switzerland, and the United Kingdom. Developing countries include Algeria, Argentina, Bosnia-Herzegovina, Bulgaria, Costa Rico, Dominican Republic, Kazakhstan, Lithuania, Macedonia, Malaysia, Panama, Peru, Serbia, South Africa, Turkey, Uruguay, Armenia, China, Ecuador, Honduras, India, Indonesia, Mondova, Mongolia, Nicaragua, Philippines, Sri Lanka, Thailand, Ukraine, Kenya, Tanzania, Uganda. In sum, slightly less than sixty countries inflate

been successful in encouraging significant renewable energy development in nearly all of the countries in which they have been deployed,[151] but can impose significant costs on captive utility ratepayers. These feed-in tariffs exceed substantially utility-avoided costs and wholesale power purchase costs, and therefore are justified only by their achieved results, and not typically accepted ratemaking methodology under U.S. law to minimize prudent generating costs.[152] Costs of a feed-in tariff are passed on to consumers by the FiT purchasing energy suppliers and reflect a public policy regulatory decision to increase the percentage of renewable electricity sources in use.

E. Carbon Control Regulation

In the absence of federal climate change legislation in the United States, nine eastern states have combined into the Regional Greenhouse Gas Initiative (RGGI) to regulate CO_2 from large power plants.[153] California has begun comprehensive regulation of all greenhouse gases (GHGs) from all sources,[154] other western[155] and Midwestern[156] states initiated but later postponed or abandoned

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the wholesale power tariff paid to sellers through FiT policies to promote renewable power. *Id.*

151. ANNE HELD ET AL., FRAUNHOFER INSTITUTE SYSTEMS AND INNOVATION RESEARCH, FEED-IN SYSTEMS IN GERMANY, SPAIN AND SLOVENIA: A COMPARISON 26 (2007).

152. *See* FERREY, *supra* note 27, § 5:9.

153. *See* REGIONAL GREENHOUSE GAS INITIATIVE, http://www.rggi.org (last visited Jan. 14, 2014). Ten states signed the RGGI Memorandum of Understanding (MOU), however, New Jersey withdrew and other states have considered withdrawal from this cap-and-trade program.

154. California Global Warming Solutions Act of 2006, Cal. Health & Safety Code §§ 38500–38599 (2013).

155. The Western Climate Initiative is a group of seven western states and two Canadian provinces that planned to release a carbon restriction program to cut GHG emissions fifteen percent below 2005 levels. *See* Ethan Howland, *Power Lines, Renewables, Climate Change Are at Top of New Mexico Agenda in 2008*, ELECTRIC UTIL. WK., Jan. 14, 2008; Lisa Weinzimer, *California Regulators Call for "First Seller" Variation of Cap-and-Trade GHG Approach*, ELECTRIC UTIL. WEEK, Feb. 18, 2008.

156. These states include Iowa, Illinois, Kansas, Michigan, Minnesota and Wisconsin, and the Canadian province of Manitoba. The three states of Indiana, Ohio, and South Dakota opted out of this scheme and are now observers. *See*

global warming gas mitigation. The California carbon scheme requires that California reduce GHG emissions to 1990 levels by 2020, considering all in-state and out-of-state generation used to serve California electric load.[157] RGGI only regulates CO_2 and only regulates the electric power sector, and then only larger plants in that sector; California regulates all GHGs, including CO_2. RGGI began in 2009; California's carbon program was delayed by several lawsuits until 2013.

Because states do not want the carbon costs they impose on their in-state power generators to promote higher-carbon out-of-state power imports, they consider securing their borders, or at least surcharge and dissuade intruding high-carbon power flows.[158] A major practical and policy problem identified by the RGGI states,[159] as well as California,[160] is so-called "leakage" into the state of less-costly power whose carbon content is not regulated or affected.[161] California imports power from eleven states, including a large

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generally Dean Scott, *Midwestern States to Draw up Model Rule Beyond of 2008 to Implement Cap-and-Trade*, 39 ENV'T REP. (BNA) 343 (Feb. 22, 2008); Nora Macaluso, *Midwest States to Commence Work on Details of Regional Climate Strategy*, 38 ENV'T REP. (BNA) 2556 (Nov. 30, 2007).

157. California Global Warming Solutions Act of 2006, Cal. Health & Safety Code §§ 38500-38599 (2013). The bill sets a firm limit on GHG emissions in California by requiring the Air Resources Board to determine California's GHG emission level in 1990 and then issue regulations causing GHG emissions to be reduced to that level by 2020). *Id.*

158. *See* DAVID FARNSWORTH ET AL., REG'L GREENHOUSE GAS INITIATIVE, POTENTIAL EMISSIONS LEAKAGE AND RGGI: EVALUATING MARKET DYNAMICS, MONITORING OPTIONS AND POSSIBLE MITIGATION MECHANISMS 2–3, 54–59 (2007), http://www.rggi.org/docs/il_report_final_3_14_07.pdf.

159. Memorandum of Understanding, Regional Greenhouse Gas Initiative (Dec. 20, 2008), *available at* http://www.rggi.org/docs/mou_final_12_20_05.pdf.

160. *Cap-and-Trade Program*, AIR RESOURCES BOARD, http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm (last updated Jan. 31, 2014).

161. *See* FARNSWORTH ET AL., *supra* note 158, at ES 1–2; RGGI states such as New Jersey, New York, Maryland, and New Delaware are bordered by states that are not signatories to RGGI and do historically produce a large volume of electricity from coal-fueled power plants. Similarly, California imports power from eleven states, including a large amount of coal-fired power. *See 2006 Gross System Electricity Production*, CAL. ENERGY ALMANAC, http://energyalmanac.ca.gov/electricity/system_power/2006_gross_system_power.html (last updated Feb. 3, 2014) (showing California imports approximately ten percent of its total electricity from out of state coal plants).

amount of coal-fired power, and its choice to regulate carbon at the point of generation is necessary for California to get at the problem of high-carbon power leakage into the state.[162]

The RGGI Staff Working Group found that a substantial proportion of CO_2 emissions avoided by RGGI could be offset by corresponding increases in non-RGGI states, with early modeling showed leakage as high as ninety percent depending on the programmatic assumptions, which was reduced to leakage of CO_2 between fifty-seven percent and forty percent over the life of the RGGI program.[163] The governors in affected states agreed to "pursue technically sound measures to prevent leakage from undermining the integrity of the [p]rogram."[164] For the discussion of constitutional issues addressed later in this paper,[165] it is of note now that wholesale electricity is moving constantly in interstate commerce at the speed of light.[166]

F. Consumer Pushback on State Regulation

1. Costs and Cross-Subsidies

Each of these five state incentives has in common that it invisibly transfers costs, with no notation on the consumer bill, from all non-participating ratepayers to ratepayers who take advantage of these incentives. While this is one positive factor of the renewable power development incentives, the incentive cost is borne not by the utilities or the state, but by other electricity consumers.

a. Net Metering

Net metering subsidizes designated renewable on-site generation by allowing its producers to utilize the distribution system to store

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162. *See* Harvard Electricity Policy Group, Rapporteur's Summary at the Harvard Electricity Policy Group Forty-Ninth Plenary Session 39 (Dec. 6–7, 2007), *available at* http://www.hks.harvard.edu/hepg/RapporteurReport12-07.pdf.

163. *Id.* at 42.

164. Memorandum of Understanding, *supra* note 159, at 10.

165. *See infra* Parts V, VI.

166. *See* FERREY, *supra* note 27, § 2:1; Steven Ferrey, *Inverting Choice of Law in the Wired Universe: Thermodynamics, Mass, and Energy*, 45 WM. & MARY L. REV. 1839, 1914 (2004).

electric energy without paying any *pro rata* per Kwh cost for this distribution and energy banking/storage service. This power can be reclaimed at any time by the original producer, again without paying any share of the costs of the distribution system that redelivers this power to the customer. Since distribution and transmission expenses can be the largest share of total retail electricity costs,[167] this storage allows the renewable energy project to move and later use power at less than half the actual tariffed cost of the utility system performing this function, with the net metered customer still relying substantially on grid services. Utilities in California estimate that net metering may result in as much as $1.4 billion each year in lost revenue, which will be passed on to customers in higher rates for the fixed costs of transmission and distribution.[168]

b. Renewable Portfolio Standards

Renewable portfolio standards subsidize designated renewable energy technologies by creating a new tradable virtual renewable energy certificate and simultaneously imposing a regulatory requirement on state utilities and their ratepayers constantly to purchase a specified number of those certificates from the private projects. Therefore, there is a new expense imposed on the utilities and passed on entirely to other utility ratepayers, and the cash proceeds are transferred to operators of renewable energy projects.[169]

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167. Review any utility tariff; transmission and distribution costs can exceed the wholesale cost of the energy commodity. Compare, for example, *Business Rates*, NSTARONLINE.COM, http://www.nstaronline.com/ss3/business/rates_tariffs/rates/rates.asp (last visited Jan. 14, 2013), which shows transmission and distribution rates, with a $0.045/Kwh average wholesale price of energy in New England, as shown at real-time information of instantaneous locational marginal prices of wholesale power in each zone of New England, ISO NEW ENGLAND, http://www.iso-ne.com (last visited Mar. 16, 2014) (showing a 10:00 AM instantaneous price of approximately $250/Mwh, $0.025/Kwh).

168. Diane Cardwell, *On Rooftops, a Rival for Utilities*, N.Y. TIMES, July 26, 2013, at B1.

169. Ethan Howland & Pam Radtke Russell, *RPS Repeal Is Eyed in Some States But Chances of Success Are Unclear*, ELECTRIC UTIL. WK., Jan. 24, 2011, at 1, 39; Lisa Wood, *Green Advocates in Maine Fear RGGI Funds May Be Used to Close Budget Gap*, ELECTRIC UTIL. WK., Jan. 24, 2011, at 8–9.

c. Renewable System Benefit Charges

Renewable system benefit charges raise direct subsidies that can be dispensed by state governments to specified private electric power development facilities. These amounts are collected through the utility regulatory system on all Kwh of power sold originating from any in-state or external source, and then dispersed discretionarily to private power projects, typically within the state.

d. FiTs

FiTs establish an above-market price for the energy commodity for specified renewable or distributed power, which without regulatory order, would not be purchased at that price by a retail utility in the market. The utility is ordered by regulation to purchase amounts of this above-market-cost power, and the above-market costs are passed on entirely to the utilities' customers. FiTs cause a regulated (typically monopoly) supplier of retail power to increase its costs of acquiring certain quantities of wholesale power for eventual distribution at retail. A recent article noted that California utilities have been locking in long-term rates with developers that are often two to four times higher than what they pay for nonrenewable power sources.[170]

Governments have had difficulty in not overpaying under FiTs. In 2011, Oregon lowered the price paid under its solar feed-in tariff for the third time in its one year of existence, reducing it from its original sixty-five cents/Kwh to 37.4 cents/Kwh.[171] Each of the prior Oregon iterations at high prices was oversubscribed within less than ten minutes of its availability, even though each time the tariff was lowered ten to twenty percent from the prior availability.[172] State officials claimed they were looking for the "sweet spot."[173]

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170. *California's Coming Green-Outs*, *supra* note 5 ("California residents and businesses already pay rates that are [twenty-five percent] to [sixty-percent] higher than the national average.").

171. Pam Russell, *Oregon Reduces Solar Feed-In Tariff for Third Time, Looking for 'Sweet Spot' Price*, ELECTRIC UTIL. WK., Aug. 8, 2011, at 7.

172. *Id.*

173. *Id.*

e. Carbon and GHG Regulation

In ten Northeast states and in California, the acquisition of these carbon emission certificates to allow operation of larger fossil-fueled power projects is at a cost to the owners of the power facilities. These costs are passed on in the increased price of electricity in wholesale and retail consumer power markets. One report found that RGGI cost New Hampshire retail ratepayers about $5.50/year in extra costs passed through to them by utilities which paid for carbon allowances associated with generation.[174] The ten Northeast RGGI states used the approximately $900 million of RGGI auction proceeds realized during 2009–2011; fifty-two percent for energy efficiency, eleven percent for renewable energy, fourteen percent in order to reduce consumer rates, and one percent for other programs.[175]

2. Opposition

The California PUC Division of Ratepayer Advocates criticized the rapid escalation in California ratepayer costs to achieve the RPS mandate.[176] The cost of RPS compliance exceeded the cost of the power itself.[177] The California Division of Ratepayer Advocates reported "that the California Public Utilities Commission has 'approved nearly every renewable contract filed by the utilities, even when they rate poorly on least-cost, best-fit criteria.'"[178]

> The [California] PUC . . . has greenlighted all but two of 184 green-energy proposals since 2002 . . . .
>
> The state Division of Ratepayer Advocates, whose purpose is to represent consumers, concluded in a report last year [2011] that the power contracts the PUC has been approving have put consumers on the hook for $6 billion in excess costs. "What the commission's practice has been is not to consider the cost of renewable power but to approve

174. Lisa Wood, *RGGI Cost Data in New Hampshire Renews Opponents Demand for State to Quit Program*, ELECTRIC UTIL. WK., Nov. 7, 2011, at 10.

175. *Id.*

176. Geoffrey Craig, *Renewable Costs of California's Three Big Utilities Soared Last Year, CPUC Data Shows*, ELECTRIC UTIL. WK., Feb. 13, 2012, at 18.

177. *Id.*

178. *California's Coming Green-Outs*, *supra* note 5.

> every renewable project that came before them," said Joe Como, acting director of the division. "We really spent too much money. It's frustrating as hell."[179]

Some utilities have objected to having to pass these fees on as a cost of the power that they purchase. San Diego Gas & Electric Company alleged that net metering provided an "unfair and unsustainable subsidy" of approximately thirty-four dollars from each other customer.[180] The President of NRG Energy noted that more distributed solar and wind power is forcing utilities to spread fixed costs over fewer customers, increasing the cost to remaining customers.[181] States that considered possible curtailment or repeal of their RPS programs include about half of the RPS states: Colorado, Montana, Wisconsin, Arizona, New Mexico, New Hampshire, and Maine.[182] New Hampshire, New Jersey, and New York, picked the pocket of part of their RGGI funds.[183]

Governor Christie through executive action pulled New Jersey out of RGGI. Other states have or are considering diluting their RPS programs by broadening the definition of "renewable" energy eligible for RPS subsidies to include technologies not normally associated with renewable energy:

- Allowing existing, rather than only new, resources to qualify.[184]

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179. Evan Halper, et al., *Taxpayers, Ratepayers Will Fund California Solar Plants*, L.A. TIMES, Sept. 20, 2012, *available at* http://articles.latimes.com/2012/sep/20/local/la-me-bigsolar-20120921.

180. Lisa Weinzimer, *Consumer and Solar Groups Pan SDG&E's Planned Surcharge, Saying It May Be Illegal*, ELECTRIC UTIL. WK., Nov. 21, 2011, at 18.

181. Engblom, *supra* note 15.

182. Howland & Russell, *supra* note 169; Wood, *supra* note 169.

183. Wood, *supra* note 169; Lisa Wood & Rob Matyi, *New Leadership in Several States May Weaken 'Green' Mandates, Citing Cost Considerations*, ELECTRIC UTIL. WK., Feb. 14, 2011, at 34–35. New Jersey took $90 million from its RGGI proceeds to reduce general state budget deficits, and in March 2010, New Jersey Governor Christie indicated he was planning to take $65 million from the New Jersey RGGI Fund for a similar purpose. Wood, *supra* note 169.

184. This applies to considerations in Connecticut and Washington. *See* Herman K. Trabish, *Numbers from the War on State Renewable Standards*, GREENTECH

- Oregon, Montana, and Maine are adding previously ineligible hydropower.[185]
- Maryland has considered including natural gas-power electric generation.[186]
- Wisconsin has considered including nuclear power generation.[187]
- West Virginia and Massachusetts allow coal-derived fuels producing power to qualify.[188]

V. STATE RENEWABLE ENERGY LEGAL AND CONSTITUTIONAL CHALLENGES

A. The "Bright" Federalist Line Created by Congress and the Constitution

Federalist forms of government denote a system in which political sovereignty is constitutionally divided between a central federal authority and constituent states or provinces.[189] In these schemes, there must be a division between state and federal jurisdiction. In the United States, the Federal Power Act (in sections 205 and 206)[190] empowers the Federal Energy Regulatory Commission (FERC) to exclusively regulate rates for the interstate and wholesale sale and transmission of electricity.[191] The U.S. Supreme Court held that Congress meant to draw a "bright line," easily ascertained and not requiring case-by-case analysis, between state and federal jurisdiction.[192] When a transaction is subject to exclusive federal FERC jurisdiction and regulation, state regulation is preempted as a

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MEDIA (Mar. 25, 2013), www.greentechmedia.com/articles/read/numbers-from-the-war-on-state-renewables-standards.

185. *Id.*

186. *Id.*

187. *Id.*

188. *Id.*

189. Such federalist forms of government describe several large and established countries, such as the United States, Germany and India, as well as Australia, Brazil, Canada, Malaysia, Mexico, Nigeria, and Switzerland.

190. Federal Power Act §§ 205, 206, 16 U.S.C. §§ 824d, 824e (2012).

191. Pub. Util. Dist. No. 1 v. FERC, 471 F.3d 1053, 1066 (9th Cir. 2006), *aff'd in part and rev'd in part sub nom.*, Morgan Stanley Capital Grp. Inc. v. Pub. Util. Dist. No. 1, 554 U.S. 527 (2008), *vacated*, 547 F.3d 1081 (9th Cir. 2008).

192. Fed. Power Comm'n v. S. Cal. Edison Co., 376 U.S. 205, 215–16 (1964).

matter of federal law and the U.S. Constitution's Supremacy Clause, according to a long-standing and consistent line of rulings by the U.S. Supreme Court.[193]

Although "FERC has exclusive authority to determine the reasonableness of wholesale rates . . ."[194] states retain authority over retail electric sales because "FERC's jurisdiction over the sale of power has been specifically confined to the wholesale market."[195] The Federal Power Act (FPA) defines "sale at wholesale" as any sale to any person for resale.[196] If states impose a rate in excess of avoided cost by either "law or policy," the "contracts will be considered to be void *ab initio*."[197] Since FERC has exclusive authority to determine the reasonableness of wholesale rates,[198] the Supreme Court consistently has reaffirmed and enforced the Filed Rate Doctrine, as will be explained below, when states attempted to assert jurisdiction inconsistent with FERC's exclusive authority over wholesale rate and term determinations.[199]

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193. *See* New Eng. Power Co. v. New Hampshire, 455 U.S. 331 (1982). The Supreme Court overturned an order of the New Hampshire Public Utilities Commission that restrained within the state, for the financial advantage of in-state ratepayers, low-cost hydroelectric energy produced within the state. It held this to be an impermissible violation of the dormant Commerce Clause of the U.S. Constitution, U.S. CONST. art. 1, § 8, cl. 3, and the Federal Power Act: "Our cases consistently have held that the commerce clause of the Constitution . . . precludes a state from mandating that its residents be given a preferred right of access, over out-of-state consumers, to natural resources located within its borders or to the products derived therefrom." *Id.* at 338. *See also* Nantahala Power & Light Co. v. Thornburg, 476 U.S. 953 (1986); Miss. Power & Light Co. v. Miss. *ex rel.* Moore, 487 U.S. 354 (1988); Energy La., Inc. v. La. Pub. Serv. Comm'n, 539 U.S. 39 (2003) (discussing whether state regulation of energy is permissible under the Commerce Clause).

194. *Miss. Power*, 487 U.S. at 355.

195. New York v. FERC, 535 U.S. 1, 20 (2002) (emphasis omitted).

196. Federal Power Act § 201(d), 16 U.S.C. § 824d(d).

197. Conn. Light & Power Co., 70 FERC ¶ 61,012, 61,029–30 (1995).

198. *Miss. Power*, 487 U.S. at 371.

199. Morgan Stanley Capital Grp. Inc. v. Pub. Util. Dist. No. 1, 554 U.S. 527, 530–31 (2008); Entergy La., Inc. v. La. Pub. Serv. Comm'n, 539 U.S. 39, 47 (2003); *Miss. Power*, 487 U.S. at 354; Nantahala Power & Light Co. v. Thornburg, 476 U.S. 953, 963 (1986) (the Filed Rate Doctrine limitations also apply ". . . to decisions of state courts.").

Subsequently, this has created a well-established legal dividing line in U.S. law between federal and state government authority to regulate transactions of the private electric power industry. Because of the implied "bright line,"[200] it does not make any difference whether a state acts through its legislature or its energy regulatory agency,[201] but a state must stay on the demarcated "state" side of this legal "bright line." State regulation is not allowed to stand as an obstacle to Congressional objectives.[202] Nor is state law allowed to overrule or supplant federal determinations by adding requirements that are inconsistent with those in federal law.[203]

B. Locational Discrimination De Facto or De Jure

Article 1, section 8, clause 3 of the Constitution states that "Congress may regulate Commerce . . . among the several States . . . ." This so-called dormant Commerce Clause prohibits actions that are facially discriminatory against interstate commerce.[204] The dormant Commerce Clause restriction is "driven by concern about 'economic protectionism—that is, regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors.'"[205] Discriminatory statutes are subject to "strict scrutiny," and for such a statute or regulation to be valid, the state must establish that the statute serves a compelling state interest through the least restrictive means to achieve that interest.

Geographically-based restriction on interstate commerce, whether discriminating for or against local commerce, raises dormant

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200. Fed. Power Comm'n v. S. Cal. Edison Co., 376 U.S. 205, 215–16 (1964).

201. Pac. Gas and Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 215 (1983).

202. *See id.* at 204, 212; Hines v. Davidowitz, 312 U.S. 52, 67 (1941).

203. Granite Rock Co. v. Cal. Coastal Comm'n, 768 F.2d 1077, 1083 (9th Cir. 1985), *rev'd*, 480 U.S. 572 (1987); Nat'l Meat Ass'n v. Harris, 132 S. Ct. 965, 966 (2012) (holding in a unanimous decision that federal law prohibits states from enforcing requirements regarding "premises, facilities and operations" that are "in addition to or different from" those in federal law).

204. *See* Dep't of Revenue of Ky. v. Davis, 553 U.S. 328, 338 (2008) (quoting Or. Waste Sys., Inc. v. Dep't of Envtl. Quality, 511 U.S. 93, 99 (1994)).

205. *See id.* at 328 (quoting New Energy Co. v. Limbach, 486 U.S. 269, 273–74 (1988)).

Commerce Clause concerns.[206] The dormant Commerce Clause prohibits actions that are facially discriminatory against or unduly burden interstate commerce.[207] As such, the modern dormant Commerce Clause case precedent is driven by this concern about economic protectionism.[208]

A court first determines whether state regulation or legislation is facially discriminatory against interstate commerce, and will only uphold the state law if a legitimate local purpose can be found.[209] In *Dean Milk Co. v. Madison*, the Supreme Court noted that an agency of government cannot discriminate against interstate commerce "if reasonable nondiscriminatory alternatives, adequate to conserve legitimate local interests, are available."[210] For such a statute or regulation to be upheld, the state must establish that there is a compelling state interest for which the statute is the least intrusive means to achieve that interest,[211] "even if environmental preservation were the central purpose of the pricing order, that would not be sufficient to uphold a discriminatory regulation."[212] The scope of "commerce" among the states for purposes of a dormant Commerce Clause analysis is broadly defined,[213] and all objects traded in interstate commerce merit Commerce Clause protection, including the transmission of electric energy.[214] In fact, electric energy is one of the most basic elements of interstate commerce.[215]

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206. U.S. CONST., art. 1, § 8, cl. 3; *see Davis*, 553 U.S 328.

207. *See id.* at 338 (quoting Or. Waste Sys., 511 U.S. at 100).

208. *See id.* at 328 (quoting New Energy Co. 486 U.S. at 273–74).

209. *See id.* at 338 (quoting Or. Waste Sys., 511 U.S. at 100).

210. Dean Milk Co. v. City of Madison, 340 U.S. 349, 354 (1951).

211. Trevor D. Stiles, *Renewable Resources and the Dormant Commerce Clause*, 4 ENVTL. & ENERGY L. & POL'Y J. 33, 60–61 (2009) (outlining a history of the Dormant Commerce Clause).

212. W. Lynn Creamery v. Healy, 512 U.S. 186, 204 n.20 (1994).

213. *See* City of Philadelphia v. New Jersey, 437 U.S. 617, 621–22 (1978) (holding that a state cannot discriminate against articles of commerce originating in other states unless there is a "reason, apart from their *origin*, to treat them differently.") (emphasis added).

214. *See id.*; *see also* New York v. FERC, 535 U.S. 1, 16 (2002) (finding that transmissions on the interconnected national grids constitute transmissions in interstate commerce).

215. FERC v. Mississippi, 456 U.S. 742, 757 (1982).

Except for the necessity to quarantine certain products, a compelling state requirement is rarely found. Statutes found to discriminate against out-of-state interests based on geography or favoring local interests, are found to be *per se* invalid.[216] If the statute is geographically even-handed, the courts apply the *Pike* balancing test to determine whether the state's interest justifies the incidental discriminatory effect of the regulatory mechanism as applied.[217] State and local laws are deemed unconstitutional under the dormant Commerce Clause when a law differentiates between in-state and out-of-state economic interests in a manner that benefits the former and burdens the latter.[218]

VI. THE MATRIX: CONSTITUTIONAL CHALLENGES TO STATE RENEWABLE POLICY

Renewable energy incentives are a new creation, and successful legal challenges followed recently:

- California in 2011 lost defending its feed-in tariffs for renewable power.[219]
- California in 2011 lost a suit on its carbon control cap-and-trade regulation, resulting in an additional year of delay in the program until 2013 while it made revisions.[220]

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216. *See Philadelphia*, 437 U.S. at 624 (noting that if a statute is facially discriminatory, it is virtually *per se* invalid); Gen. Motors Corp. v. Tracy, 519 U.S. 278, 287 (1997); Stiles, *supra* note 211, at 60–61; Patrick R. Jacobi, *Renewable Portfolio Standard Generator Applicability Requirements: How States Can Stop Worrying and Learn to Love the Dormant Commerce Clause*, 30 VT. L. REV. 1070, 1101 (2006) (predicting that a court will likely strike down as unconstitutional any regulation that discriminates geographically or through point-of-origin).

217. *See* Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970) (explaining the balancing test for when a "statute regulates even-handedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental . . . .").

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

219. Cal. Pub. Utils. Comm'n, 132 FERC ¶ 61,047, 26 (2010) (Order on Petitions for Declaratory Order).

220. *See id.* at 35; Ass'n of Irritated Residents v. Cal. Air Res. Bd., CPF–09-509562 (Cal. Super. Ct. 2011) (order granting in part petition for writ of mandate).

- California in 2012 had its low carbon fuel standard declared as a violation of the dormant Commerce Clause, although later reversed by a split Ninth Circuit decision in 2013, withholding a later decision as to whether it also violated the Supremacy Clause.[221]
- California in 2013 lost a constitutional challenge when the U.S. Supreme Court found its vehicle regulation was preempted by federal law.[222]
- A challenge by regional generators of power in the mid-Atlantic states against New Jersey's in-state energy facility location preferences for new power generation was successful, resulting in a change in FERC-approved regional PJM procedures,[223] and in 2013, ruled still unconstitutional by federal court.
- A successful 2013 challenge by regional generators of power against Maryland's in-state energy facility location preferences for new power generation.[224]
- A constitutional suit on renewable power incentives in Colorado stalled on procedural grounds.[225]
- An initial court ruling in 2011 that the Missouri RPS program was illegal, which was reversed at the end of 2012 and is on appeal.[226]
- A successful settlement of suit in 2010 against New York's RGGI carbon regulation.[227]

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221. *See* Rocky Mountain Farmers Union v. Cal. Air Res. Bd., 843 F. Supp. 2d 1071, 1094, 1103 (E.D. Cal. 2011).

222. *See* Am. Trucking Ass'n v. City of Los Angeles, 133 S. Ct. 2096, 2105 (2013).

223. *See* PJM Interconnection LLC, 135 FERC ¶ 61,022 (2011).

224. PPL Energyplus, LLC v. Nazarian, 2013 U.S. Dist. WL 5432346 (D. Md. Sept. 30, 2013).

225. *See* Am. Tradition Inst. v. Colorado, 2011 U.S. Dist. LEXIS 94559; Am. Tradition Inst. v. Colo., 2012 U.S. Dist. LEXIS 20941 (D. Colo. Feb. 21, 2012).

226. *See* State *ex rel.* Mo. Energy Dev. Ass'n. v. Mo. Pub. Serv. Comm'n, No. 10AC-CC00512 (Cir. Ct. June 29, 2011), *rev'd*, 386 S.W.3d 165 (Mo. Ct. App. 2012).

227. *See* Press Release, Peter A. Barden, Indeck Energy Sues State Questioning Legality of Regional Greenhouse Gas
Program (Jan. 29, 2009) (on file with Barden).

- An additional suit against New York's participation in RGGI, dismissed on standing grounds without reaching the merits.[228]
- A federal court ruling that Vermont regulation of its wholesale power preferences and sales violated the U.S. Constitution, subsequently upheld by the federal Second Circuit.[229]
- A successful settled suit alleging that Massachusetts' renewable energy incentives violated the Constitution.[230]
- A unanimous declaration in July 2013 by the Seventh Circuit Court of Appeals that state RPS programs, which discriminate against creation of renewable credits by out-of-state power production (as two-thirds of RPS states do),[231] are unconstitutional violations of the dormant Commerce Clause of the Constitution.[232]

A. The Supremacy Clause Restricting State FiTs, Certain Carbon Control Regulation, and Certain Net Metering Regulation

1. The "Bright Line"

Federal jurisdiction arises because electricity moves almost at the speed of light in interstate commerce across an interconnected grid in the forty-eight continental U.S. states,[233] according to Kirchhoff's Law.[234] The U.S. Supreme Court held that "it is difficult to conceive

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228. *See* Thrun v. Cuomo, 976 N.Y.S.2d 320 (N.Y. App. Div. 3d Dep't 2013).

229. *See* Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 838 F. Supp. 2d 183 (D. Vt. 2011), *aff'd in part, vacated in part*, 733 F.3d 393 (2d Cir. 2013).

230. *See* TransCanada Power Mktg. Ltd. v. Bowles, No. 4:10-cv-40070-FDS (D. Mass. filed Apr. 16, 2010).

231. *See* Ill. Commerce Comm'n v. FERC, 721 F.3d 764, 776 (7th Cir. 2013).

232. *Id.*

233. *See* STEVEN FERREY, UNLOCKING THE GLOBAL WARMING TOOLBOX: KEY CHOICES FOR CARBON RESTRICTION AND SEQUESTRATION 149 (2010).

234. Steven Ferrey, *Efficiency in the Regulatory Crucible: Navigating 21st Century 'Smart' Technology and Power*, 3 GEO. WASH. J. ENERGY & ENVTL. L. 1, 5 (2012); Kirchhoff's Law states that at any point in an electrical circuit where charge density is not changing in time, the sum of currents flowing towards that point is equal to the sum of currents flowing away from that point. *Kirchhoff's Laws*, MSU DEP'T OF PHYSICS & ASTRONOMY, http://www.pa.msu.edu/courses/2000spring/phy232/lectures/kirchhoff/kirchhoff.html (last visited Feb. 3, 2014).

of a more basic element of interstate commerce than electric energy, a product used in virtually every home and every commercial or manufacturing facility. No State relies solely on its own resources in this respect."[235] The courts have determined that electrons in interstate commerce cannot be traced, although we know that they move effortlessly interstate through the very design of the interstate transmission system.[236]

Moreover, an increasingly large majority of U.S. power now proceeds through a wholesale power sale prior to its ultimate retail disposition,[237] thereby fundamentally altering the legal analysis of what is and is not now constitutional for a state, as opposed to the federal government, to regulate.[238] A large number of independent renewable power generators now sell their power wholesale to redistributing utilities and others that thereafter resell that power to retail customers:

> When combined with federal preemption law, one crucial result of these energy market regulatory reforms has been "a massive shift in regulatory jurisdiction from the states to FERC." . . . The upshot of these federal and state innovations in electricity regulation is that state regulators, despite their continued authority over rates charged directly to consumers, have much less actual authority over those rates than they did [earlier]. Local utilities now obtain power largely through wholesale contracts subject to FERC's exclusive regulation, rather than through self-

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235. FERC v. Mississippi, 456 U.S. 742, 757 (1982).

236. New York v. FERC, 535 U.S. 1, 7, 32 (2002); Fed. Power Comm'n v. Fla. Power & Light Co. 404 U.S. 453, 460 (1972).

237. ELEC. ENERGY MKT. COMPETITION TASK FORCE, REPORT TO CONGRESS ON COMPETITION IN WHOLESALE AND RETAIL MARKETS FOR ELECTRIC ENERGY 10 (2006):

> In the 1970s, vertically integrated utility companies (investor-owned, municipal, or cooperative utilities) controlled over [ninety-five] percent of the electric generation in the United States . . . by 2004 electric utilities owned less than [sixty] percent of electric generating capacity. Increasingly, decisions affecting retail customers and electricity rates are split among federal, state, and new private, regional entities.

238. *See* FERREY, *supra* note 27, § 1:1; *see also* FERREY, *supra* note 10, at 561.

> generated and transmitted power . . . . Although state regulators formerly took an extremely active role so as to ensure the just and reasonable retail power rates, FERC now has exclusive jurisdiction over the wholesale rates that now drive the electric power market and, as a practical matter, largely determine the rates ultimately charged to the public.[239]

As they designed their state incentives, states were advised and cautioned about carefully observing the constitutional limits in treatises,[240] books,[241] leading power industry journals,[242] and law review articles both before legal challenges began[243] and after promulgation of state programs for RPS, FiTs, SBC, net metering, and carbon control.[244] States that ignored the warnings have been

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239. Pub. Util. Dist. No. 1 v. FERC, 471 F.3d 1053, 1066 (9th Cir. 2006), *aff'd in part and rev'd in part sub nom.*, Morgan Stanley Capital Grp. Inc. v. Pub. Util. Dist. No. 1, 554 U.S. 527 (2008), *vacated*, 547 F.3d 1081 (9th Cir. 2008).

240. *See* FERREY, *supra* note 27, § 5:9, 5:15–18, 10:110–10:113; FERREY, *supra* note 141, at 2.

241. FERREY, *supra* note 141.

242. *See* Steven Ferrey, *Renewable Subsidies in the Age of Deregulation*, PUB. UTIL. FORTNIGHTLY, Dec. 1997, http://www.fortnightly.com/fortnightly/1997/12/renewable-subsidies-age-deregulation; *see also* Steven Ferrey, *Carbon and the Constitution: State GHG Policies Confront Federal Roadblocks*, PUB. UTIL. FORTNIGHTLY, Apr. 2009, http://www.fortnightly.com/fortnightly/2009/04/carbon-and-constitution.

243. *See* Steven Ferrey, *Exit Strategy: State Legal Discretion to Environmentally Sculpt the Deregulating Electric Environment*, 26 HARV. ENVTL. L. REV. 109, 145 (2002); *see also* Ferrey, *supra* note 166, (2004); Kristen H. Engel, *The Dormant Commerce Clause Threat to Market-Based Environmental Regulation: The Case of Electricity Deregulation*, 26 ECOLOGY L.Q. 243 (1999); 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, 508 (2004).

244. *See* Steven Ferrey et al., *FIT in the U.S.A.*, PUB. UTIL. FORTNIGHTLY, June 2010, http://www.fortnightly.com/fortnightly/2010/06/fit-usa; *see also* Steven Ferrey, *Legal Barriers to Sub-National Governance Techniques by U.S. States for Renewable Energy Promotion and GHG Control*, *in* Proceedings of the UNITAR-Yale Conference on Environmental Governance and Democracy (2010); 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 (2010); Robin K. Craig, *Constitutional Contours for the Design and*

either threatened or ordered to pay challengers' millions of dollars of legal costs of successful constitutional challenge.[245]

Congress, in the FPA, "adopt[ed] the test developed in the *Attleboro* line [of cases] which denied state power to regulate a sale 'at wholesale to local distributing companies' and allowed state regulation of a sale at 'local retail rates to ultimate consumers.'"[246] As the Court explained, Congress enacted the Federal Power Act based on testimony that *Attleboro* "has been accepted by everyone as establishing . . . the fact that the State cannot regulate wholesale transactions, although it can regulate retail service and rate."[247]

In 1986,[248] and again in 1988,[249] 2003,[250] and 2008,[251] the Filed Rate Doctrine (as enforced through the Supremacy Clause) was reaffirmed and enforced by the Supreme Court. The 1986 Supreme Court decision concluded that the Filed Rate Doctrine limitations also apply "to decisions of state courts."[252] The Filed Rate Doctrine is an absolute prohibition of state regulation over wholesale power rates, contracts, and terms which are reserved exclusively to federal authority.[253] The Supreme Court in 2008 reiterated that the FPA

Implementation of Multistate Renewable Energy Programs and Projects, 81 U. COLO. L. REV. 771 (2010); Steven Ferrey, *Threading the Constitutional Needle With Care: The Commerce Clause Threat to the New Infrastructure of Renewable Power*, 7 TEX. J. OF OIL, GAS, & ENERGY L. 59 (2012); Steven Ferrey, *Goblets of Fire: State Programs on Global Warming and the Constitution*, 35 ECOLOGY L. Q. 835 (2009).

245. *See, e.g.*, Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 838 F. Supp. 2d 183 (D. Vt. 2012), *aff'd in part, vacated in part*, 733 F.3d 393 (2d Cir. 2013); PPL Energyplus, LLC v. Solomon, 2011 U.S Dist. WL 5007972 (D.N.J. Oct. 20, 2011) (plaintiffs were allowed to submit an application for the state to cover their legal fees); PPL EnergyPlus, LLC v. Hanna, 2013 U.S. Dist. WL 5603896 (D.N.J. Oct. 11, 2013).

246. Fed. Power Comm'n v. S. Cal. Edison Co., 376 U.S. 205, 214 (1964) (internal citations omitted).

247. *Id.* at 213 n.8 (internal citations omitted).

248. Nantahala Power & Light Co. v. Thornburg, 476 U.S. 953, 963 (1986).

249. Miss. Power & Light Co. v. Miss. *ex rel.* Moore, 487 U.S. 354, 374 (1988).

250. Entergy La., Inc. v. La. Pub. Serv. Comm'n, 539 U.S. 39, 47 (2003).

251. Morgan Stanley Capital Grp. Inc. v. Pub. Util. Dist. No. 1, 554 U.S. 527 (2008).

252. *Nantahala Power & Light Co.*, 476 U.S. at 963.

253. The Filed Rate Doctrine is not limited to "rates" per se. *Id.* ("But [the Court's] inquiry is not at an end because the orders do not deal in terms of prices or

creates a "'bright line' [] between state and federal jurisdiction, with wholesale power sales . . . falling on the federal side of the line."[254] This recent decision articulated an unbroken line of Supremacy Clause applications barring state regulation:

> Congress has drawn a bright line between state and federal authority in the setting of wholesale rates and in the regulation of agreements that affect wholesale rates. States may not regulate in areas where FERC has properly exercised its jurisdiction to determine just and reasonable wholesale rates or to insure that agreements affecting wholesale rates are reasonable.[255]

2. FiTs and Carbon Control Regulation

In 2010 and 2011, FERC issued its most recent rulings on state FiTs. In *California Public Utilities Commission*, FERC held that its authority under the FPA includes the exclusive jurisdiction to regulate the rates, terms, and conditions of sales for resale of electric energy in interstate commerce by public utilities.[256] California had argued that its environmentally beneficial purposes should make it exempt from federal preemption in setting non-market-conforming wholesale rates for a state FiT.[257] FERC found that state purpose does not permit illegal establishment of FiTs requiring purchases of electricity at inflated wholesale prices,[258] and that renewable

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volumes of purchases.") (citing N. Natural Gas Co. v. State Corp. Comm'n, 372 U.S. 84, 90–91 (1963)).

254. Pub. Util. Dist. No. 1 v. FERC, 471 F.3d 1053, 1066 (9th Cir. 2006), *aff'd in part and rev'd in part sub nom.*, Morgan Stanley Capital Grp. Inc. v. Pub. Util. Dist. No. 1, 554 U.S. 527 (2008), *vacated*, 547 F.3d 1081 (9th Cir. 2008).

255. Miss. Power & Light Co. v. Miss. *ex rel.* Moore, 487 U.S. 354, 374 (1988).

256. Cal. Pub. Utils. Comm'n, 132 FERC ¶ 61,047, 61,337, 61,339 (2010); *see, e.g.*, *Miss. Power & Light Co.*, 487 U.S. at 354, 360–62 (referring to FERC proceedings where FERC decided on the merits a case involving FiTs for an electric utility); *see generally* 16 U.S.C. §§ 824, 824d, 824e (2006).

257. *Cal. Pub. Utils. Comm'n*, 132 FERC ¶ 61,327–39.

258. *See id.* ¶ 61,338. FERC rejected all of California's arguments regarding generic environmental rationales for wholesale rates in excess of limits under federal law or set by FERC. *Id.*

wholesale generators cannot receive more than fair market prices under federal law.[259]

FERC's decision renders the European-used option of above-market FiTs legally inaccessible to U.S. states except in the context of the Public Utility Regulatory Policies Act of 1978 (PURPA) rates limited to purchasing power at utility avoided costs.[260] FERC reiterated that only the federal government can regulate commerce among the states and held that California cannot attempt to regulate commerce outside its borders.[261]

In a highly publicized case in 2012, a Vermont federal trial court found that state regulation of wholesale power pricing was preempted by federal law and that state law discriminating in favor of in-state regulation of power moving in interstate commerce violated the dormant Commerce Clause.[262] The Vermont district court in *Entergy Nuclear Vermont Yankee, LLC v. Shumlin* found that the FPA vests FERC with the exclusive authority to regulate the transmission and sale at wholesale of electric energy in interstate commerce, but this issue was unripe for decision[263] and the court held that the state regulation was unconstitutional on two other grounds. The Second Circuit recently affirmed this decision on it being an unconstitutional statute, and found the commerce clause and Federal Power Act claims unripe.[264]

Preventing RGGI carbon control "leakage" of power around the edges of state carbon emission regulation can also raise issues of state authority to regulate power through mechanisms that affect wholesale prices.[265] In a 2009 suit against the state of New York's

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259. *See* Cal. Pub. Utils. Comm'n, 133 FERC ¶ 61,059, 61,264–66 (2010).

260. *See* 18 C.F.R. 292.402(b) (2013).

261. *See Cal. Public Utils. Comm'n*, 133 FERC ¶ 61,264–66 (observing that California contested the Commission's decision that "the CPUC's AB 1613 Decision set rates for wholesale sales in interstate commerce, and is therefore preempted by the FPA.").

262. *See* Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 838 F. Supp. 2d 183, 234, 239 (D. Vt. 2012), *aff'd in part, vacated in part*, 733 F.3d 393 (2d Cir. 2013).

263. *See id.* at 233 (quoting New Eng. Power Co. v. New Hampshire, 455 U.S. 331, 340 (1982)); *see also* 16 U.S.C. § 824(b)(1) (FERC's authority under the FPA).

264. Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393, 433–34 (2d Cir. 2013).

265. FERREY, *supra* note 233, at 167–70.

RGGI program, New York's quick settlement moved substantial sums of complete financial relief to plaintiffs, and resulted in Consolidated Edison Company having to pay the cogeneration project for the cost of its additional carbon allowances through the end of their pre-existing long-term contracts.[266] The settlement allowed the utility to ask the New York PSC to pass through the cost of these allowances, or approximately $3 million annually, to utility customers.[267] New York's participation in RGGI was challenged a second time in 2011 by New York ratepayers as being without proper legislative approval and only implemented by regulation.[268] This case was denied in 2013 on procedural grounds where the New York ratepayers lacked standing because their injury was not distinct.[269]

Preemption was at issue in a California case in *Rocky Mountain Farmers Union v. Goldstene* in which the federal trial court had already declared that California's Low Carbon Fuel Standard (LCFS) law violated the Dormant Commerce Clause.[270] The trial court found that California's LCFS law was the state's attempt to regulate commerce outside its borders and a violation of the federal government's exclusive authority to regulate interstate commerce.[271] The court again distinguished motive from constitutional requirements, holding that "[a]lthough "[the state's] goal to combat global warming may be 'legitimate,' however, it cannot 'be achieved by the illegitimate means of isolating the State from the national

266. *See* Press Release, *supra* note 227.

267. *Id.* In addition to the Indeck project, the Brooklyn Navy Yard Co-Generation Project and Selkirk Cogen Partners also received these complete settlements of all economic impact shifted to the utility and/or its ratepayers.

268. Thrun v. Cuomo, No. 4358-/11, at 3 (N.Y. Sup. Ct. June 13, 2011); *see also* Geoffrey Craig & Gail Roberts, *Lawsuit Disputes Legality of New York Participation in RGGI, Citing Lack of Legislative Approval*, ELECTRIC UTIL. WK., July 4, 2011, at 10.

269. *Judge Allows New York to Participate in Environment Initiative*, THOMPSON REUTERS, June 15, 2012.

270. *See* Rocky Mountain Farmers Union v. Goldstene, 843 F. Supp. 2d 1071 (E.D. Cal. 2011).

271. *Id.*

economy.'"[272] In a split decision on appeal, the Ninth Circuit reversed.[273]

3. Net Metering

In 2001, FERC in *MidAmerican Energy Company* held that federal law did not preempt state net metering decisions.[274] FERC found that "no sale occurs when an individual . . . installs generation [for self-supply] and accounts for its dealings with the utility through the practice of netting."[275] Net metering is not a retail or wholesale sale of power, and therefore not subject to any federal law limitations on the price implications of net metering.[276]

In the 2009 *Sun Edison LLC* case, FERC determined that the Commission lacked jurisdiction over the generator if there was no net sale of power to the utility over the billing period.[277] There is no net sale unless the customer sells back more energy than the back-up power it consumes within the billing period.[278] Most states have not conformed their programs to the implied limitation of no net power export at the end of the period. While neither *MidAmerican* nor *Sun Edison* involved net power flowing from the net-metered generator to the utility, the findings of both decisions were limited to situations where there was no net flow of power back to the power grid.[279]

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272. *Id.* at 1088–89.

273. Rocky Mountain Farmers Union, et al. v. Richard Corey, et al., 730 F.3d 1070 (9th Cir. 2013), *petition for cert. filed* (U.S. Mar. 20, 2014) (No. 13-1148).

274. *See* MidAmerican Energy Co., 94 FERC ¶ 61,340 (2001); In March 2001, the MidAmerican Energy Company challenged before FERC the state of Iowa's regulations directing MidAmerican to interconnect with three "[a]lternate energy facilities and to offer net billing arrangements to those facilities." *Id.* MidAmerican also requested a declaratory order stating that federal law preempted these regulations. *Id.* MidAmerican asked the commission to undertake enforcement action against the Iowa Board, or to issue a declaratory order that the final orders of the Iowa Board are preempted by PURPA. *Id.*

275. *Id.* ¶ 62263.

276. *Id.* ¶ 62262 (finding that net metering is not preempted by state law); *id.* ¶ 62263 (finding that all three facilities are a QF).

277. Sun Edison LLC, 129 FERC ¶ 61,146, 61,620 (2009).

278. *Id.*

279. *MidAmerican Energy Co.*, 94 FERC ¶ 61,340; *Sun Edison LLC*, 129 FERC ¶ 61,620.

In Rhode Island, ratepayers challenged state net metering arrangements where the wind generator at the Portsmouth High School was directly interconnected to the distribution grid, rather than first serving a substantial host load, thus having virtually 100% of net power flow back to the grid.[280] The plaintiffs argument challenged whether an independent wholesale project can be paid more than the avoided cost afforded to Qualifying Facilities under PURPA,[281] rather than the net metered calculation, which is approximately 300% of avoided cost.

National Grid, the utility purchaser of the power under net-metered rates, argued that the wind generator should be grandfathered into PURPA, with subsequent policy changes applied prospectively, but that "the credits being paid to the Town from the production at the facility are effectively reducing the Town's contribution to the cost of the distribution system through the cross subsidies inherent in the net metering mechanism, because all other distribution customers are paying a rate for power that is above market."[282] The Rhode Island Division of Public Utilities and Carriers Advocacy Unit supported the ratepayers' complaint against National Grid's policy.[283] After the suit was initiated, Rhode Island changed the definitions in its state net metering law to allow the school to allocate its net metering credits to several municipal accounts.[284] Even though the suit resulted in the

280. *See Docket No. D-10-126–Division of Public Utilities and Carriers' ("Division"): Investigation Into Net Metering Complaint Relating to the Town of Portsmouth Wind Generating Facility*, R.I. PUB. UTIL. COMM'N, http://www.ripuc.org/eventsactions/docket/D-10-126page.html (last updated Aug. 29, 2013).

281. *Id.*; *see also* 16 U.S.C. § 824a-2 (2012).

282. Letter from Thomas R. Teehan, Senior Counsel, National Grid, to Luly E. Massaro, Division Clerk, Rhode Island Division of Public Utilities and Carriers (Feb. 23, 2011), *available at* http://www.ripuc.org/eventsactions/docket/D-10-126-NGrid-Reply-Advocacy(2-23-11).pdf.

283. *See* Memorandum from Jon G. Hagopian, Special Assistant Attorney, Rhode Island Division of Public Utilities and Carriers, to Luly E. Massaro, Division Clerk, Rhode Island Division of Public Utilities and Carriers (Feb. 2, 2011), *available at* http://www.ripuc.org/eventsactions/docket/D-10-126-Advocacy-Memorandum(2-2-10).pdf.

284. R.I. GEN. LAWS § 39-26.2-3(a)(1) (2013).

state changing its law, the challenge that was attempted at FERC, which declined to get involved, is now on appeal.[285]

The federal trial court in *Entergy Nuclear Vt. Yankee, LLC v. Shumlin* faced the issue on whether a state can regulate wholesale power transactions from independent generators to utilities.[286] The federal trial court followed longstanding precedent and held against Vermont in the state's recent attempt to defend state power in regulating power sale transactions or terms:[287]

> Under the Federal Power Act, 16 U.S.C. § 791a *et seq.*:
>
> Congress has drawn a bright line between state and federal authority in the setting of wholesale rates and in the regulation of agreements that affect wholesale rates. States may not regulate in areas where FERC has properly exercised its jurisdiction to determine just and reasonable wholesale rates or to insure that agreements affecting wholesale rates are reasonable.
>
> *Miss. Power & Light Co. v. Miss. Ex rel. Moore*, 487 U.S. 354, 374 (1988). . . . Furthermore, a state "must . . . give effect to Congress' desire to give FERC plenary authority over interstate wholesale rates, and to ensure that the States do not interfere with this authority." Nantahala Power & Light Co. v. Thornburg, 476 U.S. 953, 966 (1986) . . . .
>
> Under the "filed-rate doctrine," state courts and regulatory agencies are preempted by federal law from requiring the payment of rates other than the federal filed rate. *See Entergy La., Inc. v. La. Pub. Serv. Comm'n*, 539 U.S. 39, 47 (2003) . . . ("The filed rate doctrine requires 'that interstate power rates filed with FERC or fixed by FERC must be given binding effect by state utility

285. Benjamin Riggs v. Rhode Island Public Utilities Commission, 138 FERC ¶ 61,172 (2012). On December 15, 2011, Benjamin Riggs filed a complaint with FERC against the Rhode Island Public Utilities Commission claiming that the PUC November 30, 2011, decision violated the Federal Power Act and FERC regulations because it allows a rate for renewable energy that exceeds the incremental cost to the relevant electric utility of alternate energy.

286. Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 838 F. Supp. 2d 183, 190 (D. Vt. 2012), *aff'd in part, vacated in part*, 733 F.3d 393 (2d Cir. 2013).

287. *Id.*

> commissions determining intrastate rates.'" (quoting *Nantahala*, 476 U.S. at 962 . . .)).[288]

FERC reaffirmed and clarified longstanding precedent in its 2010 declaratory order regarding *California Public Utilities Commission*.[289] California argued that its environmental purposes should make it exempt from preemption in setting above-market wholesale feed-in renewable tariff rates for cogeneration facilities.[290] FERC rejected all of California's arguments.[291]

B. The Dormant Commerce Clause Applied to RPS, SBC, and Carbon Control Regulation

The dormant Commerce Clause affects state regulation or law where the state imposes regulations that differentiate private entities based on their geographic origin of commerce. Dormant Commerce Clause challenges are distinct from the constitutional jurisdictional issues discussed above[292] and are governed by different articles of the Constitution. The former is defined by Article I prohibitions on burdensome state regulation of interstate commerce of a fundamental technology,[293] while the latter is governed by Article VI, the Constitution's Supremacy Clause which establishes a judicially defined "bright line" prohibition of state regulation of wholesale transactions in power.[294]

The Constitution and the dormant Commerce Clause prohibit states from discriminating against out-of-state resources in energy commerce. A state can neither regulate in favor of or require the use

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288. *Id.* at 233–34.

289. *See generally* Cal. Pub. Utils. Comm'n, 132 FERC ¶ 61,047 (2010) (Order on Petitions for Declaratory Order).

290. *Id.* ¶¶ 61,327–28.

291. *Id.* ¶¶ 61,325, 61,338.

292. *See supra* Part VI.A.

293. U.S. CONST., art. 1, § 8, cl. 3.

294. U.S. CONST., art. VI, cl. 2 ("[T]he laws of the United States . . . shall be the supreme law of the land; and the judges in every state shall be bound thereby, anything in the Constitution or laws of any State to the contrary notwithstanding."); *see also supra* Part VI.A.

of its own in-state energy resources,[295] nor can the state regulate to harbor energy-related resources that originated in the state from leaving the state.[296] These precedents could apply to geographically restrictive RPS programs. A state also cannot require in-state coal to be used by the state even for satisfying federal Clean Air Act requirements,[297] or give income tax credits only to in-state producers of fuel additives.[298] These precedents could apply to geographically restrictive SBC programs.

A limited constitutional exception occurs when a state participates directly in the market as a purchaser, seller, or producer of articles of commerce.[299] However, in contrast to the exception for when a state directly participates in the private power business, the constitutional exception does not apply to state regulation of private power companies.

For RPS programs and RECs, the states begin with a presumption of authority to exercise jurisdiction rather than FERC. FERC held that PURPA does not control the creation of state RECs associated with the generation of power, even for wholesale transactions.[300] States can also assign to whom RECs belong: either to the seller or the purchaser of wholesale power.[301]

States have professed an environmental justification for RPS, SBC and other energy programs.[302] However, an environmental rationale for discrimination based on the geographic origin of commerce does

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295. Wyoming v. Oklahoma, 502 U.S. 437, 454–55 (1992); Alliance for Clean Coal v. Craig, 840 F. Supp. 554, 560 (N.D. Ill. 1993).

296. New Eng. Power Co. v. New Hampshire, 455 U.S. 331, 339 (1982).

297. Alliance for Clean Coal v. Miller, 44 F.3d 591, 595–97 (7th Cir. 1995).

298. New Energy Co. v. Limbach, 486 U.S. 269, 271, 277–78 (1988).

299. Hughes v. Alexandria Scrap Corp., 426 U.S. 794, 810 (1976); United Haulers Ass'n v. Oneida-Herkimer Solid Waste Mgmt. Auth., 550 U.S. 330, 334, 346–47 (2007) (citing Pike v. Bruce Church, 397 U.S. 137, 142 (1970)).

300. Am. Ref-Fuel Co., 105 FERC ¶ 61,004, 61,007 (2003).

301. Wheelabrator Lisbon, Inc. v. Conn. Dep't. of Pub. Util. Control, 531 F.3d 183, 186 (2d Cir. 2008); *In re* Ownership of Renewable Energy Certificates, 913 A.2d 825, 830–31 (N.J. Super. Ct. App. Div. 2007); ARIPPA v. Pa. Pub. Util. Comm'n, 966 A.2d 1204, 1210–11 (Pa. Commw. Ct. 2009).

302. *See* Pac. Gas & Elec. Co. v. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 212 (1983) (acknowledging respondents' argument that the state safety regulation is not preempted when it conflicts with federal law, but rejecting this argument).

not resolve dormant Commerce Clause concerns. In *West Lynn Creamery v. Healy*, the Supreme Court found that "even if environmental preservation were the central purpose of the [regulation], that would not be sufficient to uphold a discriminatory regulation."[303] In New Jersey, Colorado, Missouri, California, and elsewhere, states are contesting dormant Commerce Clause violations involving state energy or state electric power regulations. These cases include the following:

- A challenge by conventional power generators of New Jersey's in-state energy facility preferences.[304]
- A lawsuit on renewable power RPS RECs in Colorado.[305]

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303. W. Lynn Creamery v. Healey, 512 U.S. 186, 204 n.20 (1994) (citing Philadelphia v. New Jersey, 437 U.S. 617 (1978)).

304. PPL EnergyPlus, LLC v. Hanna, 2013 U.S. Dist. WL 5603896 (D.N.J. Oct. 11, 2013); PJM Interconnection, L.L.C., 135 FERC ¶ 61,022 (2011). In 2011, New Jersey enacted legislation to encourage the acquisition by utilities of the output of 2,000 Mw of new in-state power projects. Mary Powers, *PJM Generators File Complaint with FERC Seeking Relief from NJ In-State Generation Law*, ELEC. UTIL. WK., Feb. 7, 2011, at 11, 13. New Jersey faces a pending lawsuit by independent power generators asserting that the state law violates the Commerce Clause because it favors in-state producers, promotes the construction of new in-state generation facilities, and requires utilities to sign long-term contracts only with in-state generation facilities participating in multi-state PJM ISO capacity. *See PJM Interconnection*, 135 FERC ¶ 61,022. In response, FERC amended the PJM ISO rules to prevent New Jersey from encouraging construction of in-state power generation by causing them to bid power into the PJM system at suppressed prices in order to win capacity right auctions. Mary Powers, *Rebuffed by FERC Ruling, New Jersey BPU Plans to Look Again at How to Attract New Generation*, ELEC. UTIL. WK., May 23, 2011, at 4, 6.

305. Complaint for Injunctive and Declaratory Relief at 1–2, Am. Tradition Inst. v. Colorado, 2011 WL 3705108 (D. Colo. Aug. 23, 2011) (No. 11-cv-00859-WJM-KLM), *available at* http://americantradition.org/wp-content/uploads/2011/04/ATI-RPS-Complaint-ATI-v-Colorado.pdf; Amended Complaint for Injunctive and Declaratory Relief, Am. Tradition Inst. v. Colorado, 2011 WL 3705108 (D. Colo. Aug. 23, 2011) (No. 1:11-cv-00859-WJM-KLM). American Tradition Institute's (ATI) Environmental Law Center filed a lawsuit in federal court challenging the constitutionality of Colorado's renewable energy standard based upon evidence that the state's law violates the Commerce Clause. Complaint for Injunctive and Declaratory Relief at ¶¶ 1–2, *Am. Tradition Inst.*, 2011 WL 3705108. ATI's complaint argued that because the state mandate provides economic benefits to Colorado's renewable electricity generators that are not available to out-of-state

- A lawsuit on Missouri RPS RECs limited only to in-state projects.[306]
- TransCanada's lawsuit against Massachusetts on discriminating against out-of-state energy projects for RPS RECs and renewable energy contracts.[307]
- California regulation of out-of-state energy products based on the distance it must travel and the greater carbon-intensity of electricity in the Midwest to produce renewable energy fuel[308] (separate from California setting in-state wholesale tariffs).[309]
- Michigan being told that its RPS program was unconstitutional for favoring in-state power for creation of RPS RECs.[310]

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power generators, the program violates the Dormant Commerce Clause. *Id.* at ¶¶ 69, 70.

306. State. *ex rel.* Mo. Energy Dev. Ass'n. v. Pub. Serv. Comm'n of Mo., No. 10AC-CC00512, slip op. ¶¶ 1, 4, 12 (Mo. Cnty. Ct. June 29, 2011). The state trial court in 2011 ruled that the Missouri RPS program was illegal because it required RECs to be generated by in-state projects or projects that delivered the power to in-state customers. The opinion held that the RPS program "takes the cash property of utilities (and their ratepayers) and transfers it to certain customers" without due process. *Id.* The decision was reversed on appeal. State *ex rel.* Mo. Energy Dev. Ass'n v. Pub. Serv. Comm'n, 386 S.W.3d 165 (Mo. Ct. App. 2012).

307. Complaint, TransCanada Power Mktg. Ltd. v. Bowles, No. 4:10-cv-40070-FDS (D. Mass. 2010).

308. Rocky Mountain Farmers Union v. Goldstene, 843 F. Supp. 2d 1071, 1087–90 (E.D. Cal. 2011). The court reiterated that only the federal government can regulate commerce between the states, and California's attempt to regulate commerce outside its borders violates the exclusive federal authority to regulate interstate commerce. *See id.* at 1092. California gave less value to the identical energy fuel, ethanol, when produced in the Midwest, because of the latter region's use of coal-fired power for electricity in the Midwest used to produce ethanol and other products, and the longer transportation distance for trucks to transport ethanol from there to California. *See id.* at 1088–89. While such discrimination did reflect the total embedded energy emissions and transportation costs of different means to produce the energy products and to move them to the market from geographically distant production sources, the court held that states cannot elect to discriminate against more-distant out-of-state products. *Id.* at 1089.

309. *See* Cal. Pub. Utils. Comm'n, 132 FERC ¶ 61,047 (2010).

310. Ill. Commerce Comm'n v. FERC, 721 F.3d 764, 776 (7th Cir. 2013).

- Vermont's attempt to discriminate against the sale of cheaper interstate power that could be sold outside of its origin in Vermont.[311]

In the final bulleted matter regarding the *Shumlin* case in Vermont, the district court found that Vermont's regulation violated the dormant Commerce Clause.[312] The *Shumlin* opinion[313] followed the Supreme Court decision in *New England Power Co. v. New Hampshire*.[314] The Court in *New England Power* overturned, as a violation of the dormant Commerce Clause,[315] the state Public Utilities Commission's order that restrained renewable power produced within the state for the financial advantage of in-state ratepayers:[316]

> [We] consistently have held that the Commerce Clause of the Constitution, [a]rt. I, § 8, cl. 3, precludes a state from mandating that its residents be given a preferred right of access, over out-of-state consumers, to natural resources located within its borders or to the products derived therefrom. . . . [A] "State is without power to prevent privately owned articles of trade from being shipped and sold in interstate commerce on the ground that they are required to satisfy local demands or because they are needed by the people of the State."[317]

The federal trial court in 2012 reiterated that:

> [S]tates are "without power to prevent privately owned articles of trade from being shipped and sold in interstate

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311. Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 838 F. Supp. 2d 183, 189 (D. Vt. 2012), *aff'd in part, vacated in part*, 733 F.3d 393 (2d Cir. 2013).

312. *Id.* at 239.

313. *Id.*

314. New Eng. Power Co. v. New Hampshire, 455 U.S. 331 (1982).

315. *See id.* at 344; *see also* U.S. CONST. art. I, § 8, cl. 3.

316. New England Power Co. v. New Hampshire, 455 U.S. 331, 331–32, 344 (1982).

317. *Id.* at 338 (quoting Philadelphia v. New Jersey, 437 U.S. 617, 627 (1978) (citations omitted)).

> commerce on the ground that they are required to satisfy local demands or because they are needed by the people of the State," . . . [a] "protectionist regulation" violating the Commerce Clause.[318]

In April 2010, TransCanada sued Massachusetts for violating the Commerce Clause where the state required utilities to negotiate long-term contracts with in-state energy providers, and created incentives for in-state solar energy projects regardless of where the power generation creating the RECs was sold.[319] TransCanada alleged that the Massachusetts legislation is facially discriminatory against renewable energy providers in limiting the origin of the power to in-state renewable energy generators.[320] Additionally, TransCanada argued that Massachusetts ratepayers would be negatively impacted because they would be limited to and forced to pay higher rates for in-state renewable energy.[321] Massachusetts immediately settled this lawsuit rather than risk constitutional scrutiny in federal courts.[322]

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318. *Entergy Nuclear Vt. Yankee*, 838 F. Supp. 2d at 236 (quoting *New Eng. Power Co.*, 455 U.S. at 338–39). The Second Circuit added that a statute or regulation would discriminate against commerce when the statute:

> (i) [S]hifts the costs of regulation onto other states, permitting in-state lawmakers to avoid the costs of their political decisions, (ii) has the practical effect of requiring out-of-state commerce to be conducted at the regulating state's direction, or (iii) alters the interstate flow of the goods in question, as distinct from the impact on companies trading in those goods.

Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393, 431 n.37 (2d Cir. 2013) (quoting Am. Booksellers Found. v. Dean, 342 F.3d 96, 102 (2d Cir. 2003) (internal quotation marks omitted)).

319. *See* Erin Ailworth, *State Looking to Settle Suit Over Law on Clean Energy*, BOS. GLOBE, May 27, 2010, http://www.boston.com/business/articles/2010/05/27/lawsuit_hits_mass_law_promoting_local_energy_providers.

320. Complaint ¶¶ 18–19, TransCanada Power Mktg. Ltd. v. Bowles, No. 4:10-cv-40070-FDS (D. Mass. filed Apr. 16, 2010) [hereinafter TransCanada Complaint] (requiring electric distribution companies to enter into long-term contracts with in-state renewable energy generators).

321. *Id.* ¶ 26.

322. *See* Partial Settlement Agreement, TransCanada Power Mktg. Ltd. v. Bowles, No. 4:10-cv-40070-FDS (D. Mass. filed Apr. 16, 2010), *available at* http://www.mass.gov/eea/docs/doer/renewables/solar/settlement-agreement.pdf (last visited Jan. 13, 2014); *see also* Erin Ailworth, *State, TransCanada Reach*

The Supreme Court has consistently "held that the Commerce Clause of the Constitution, [a]rt. I, § 8, cl. 3, precludes a state from mandating that its residents be given a preferred right of access, over out-of-state consumers, to natural resources located within its borders or to the products derived therefrom."[323]

The Seventh Circuit in 2013 rendered the most definitive declaration on the constitutionality of RPS. Writing for a unanimous court in *Illinois Commerce Commission v. Federal Energy Regulatory Commission*, Judge Richard Posner affirmed FERC's authority over regional transmission organizations (RTO) under the FPA.[324] Posner declared that any state limiting state renewable portfolio standards to in-state generation violated the Commerce Clause.[325] The Seventh Circuit's mid-2013 ruling spurred immediate legal repercussions, where within a few days petitions for rehearing were filed in New York in light of *Illinois Commerce Commission*.[326]

In a still on-appeal lawsuit regarding New Jersey energy regulation, independent power generators alleged that a New Jersey law violated the Supremacy and Dormant Commerce Clauses

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Partial Settlement in Lawsuit, BOSTON.COM (May 28, 2010), http://www.boston.com/business/ticker/2010/05/state_transcana.html. *Compare* Ailworth, *supra* note 319 (reporting in May 2010 that the parties reached settlement), *with* Complaint, *TransCanada Power Mktg. Ltd.*, No. 4:10-cv-40070-FDS (filing suit against Massachusetts in April 2010).

323. *New Eng. Power Co.*, 455 U.S. at 338.

324. Ill. Commerce Comm'n v. FERC, 721 F.3d 764, 764, 781 (7th Cir. 2013).

325. *Id.* at 776 (citing Steven Ferrey, *Threading the Constitutional Needle with Care: The Commerce Clause Threat to the New Infrastructure of Renewable Power*, 7 TEXAS J. OIL, GAS & ENERGY L. 59, 69, 106–07 (2012) ("It trips over an insurmountable constitutional objection. Michigan cannot, without violating the commerce clause of Article I of the Constitution, discriminate against out-of-state renewable energy.")); *cf.* West Lynn Creamery, Inc. v. Healy, 512 U.S. 186, 208 (1994) (Scalia, J., Concurring) (concluding that "a state subsidy [for an in-state industry] would *clearly* be invalid under any formulation of the Court's guiding principle" under the negative Commerce Clause) (emphasis in original). Judge Posner was responding *sua sponte* to Michigan's assertions on the tariff issue. Although the tariff issue was not before the court, Michigan argued that it should not have to pay tariffs associated with out-of-state power lines because Michigan's RPS program discriminated against out-of-state electricity as not of the same value as in-state electricity. *See id.* at 776.

326. *See, e.g.*, Petition for Rehearing at 16-17, H.Q. Energy Services (U.S.) Inc., Case 03-E-0188 (N.Y. Pub. Serv. Comm'n June 21, 2013).

because it is predicated on in-state "favoritism," and is a "blatant and explicit effort to promote the construction of new generation facilities in New Jersey."[327] In 2011, FERC responded to these allegations by removing a state exemption in the PJM ISO rules to prevent New Jersey from incentivizing construction of in-state power generation.[328]

Regulating out-of-state conduct is not the only test for discrimination under the dormant Commerce Clause. In *Rocky Mountain Farmers Union v. Goldstene*, a California district court held that "tying carbon intensity scores to the distance a good travels in interstate commerce discriminates against interstate commerce" and violates the dormant Commerce Clause.[329] The district court found that California's low carbon fuel standard "discriminates against out-of-state corn-derived ethanol while favoring in-state corn ethanol and impermissibly regulates extraterritorial conduct."[330] The court's finding illustrates the Supreme Court's broader definition of discrimination, which "simply means differential treatment of in-state and out of state economic interests that benefits the former and burdens the latter."[331]

The district court in *Rocky Mountain Farmers Union* also found that defendants had not met their burden of showing that there was no nondiscriminatory means to adequately serve their objective.[332]

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327. Hanna Northey, *Energy Markets: Utilities Challenge N.J. Law While Preparing to Reap Its Benefits*, ENV'T & ENERGY PUBLISHING, Mar. 2, 2011, http://www.eenews.net/public/Greenwire/2011/03/02/4.

328. Powers, *supra* note 304, at 4, 6 (reporting that FERC, on April 12, 2011, eliminated a PJM rule that allowed a prior exemption for projects to make minimum offer prices when tempered by state energy programs). FERC's amendment would likely cause state utilities to bid power into the PJM system at ninety percent of their cost, making it less sure that they will clear PJM's capacity auctions. *Id.*

329. Rocky Mountain Farmers Union v. Goldstene, 843 F. Supp. 2d 1071, 1088 (E.D. Cal. 2011).

330. *Id.* at 1105.

331. *See* Or. Waste Sys., Inc. v. Dep't of Envtl. Quality, 511 U.S. 93, 99 (1994) (citing Pike v. Bruce Church, Inc., 397 U.S. 137, 142 (1970)) (noting that under the *Pike* test, courts will uphold a non-facially discriminatory statute "unless 'the burden imposed on such commerce is clearly excessive in relation to the putative local benefits.'").

332. *Rocky Mountain Farmers Union*, 843 F. Supp. 2d at 1093.

Indeed, the trial court noted that California had other means of addressing its renewable energy concerns without discriminating against out-of-state renewable fuel products.[333] Incorporating the Supreme Court's approach in *Dean Milk* in choosing means least discriminatory to or intrusive on interstate commerce,[334] the district court in *Rocky Mountain Farmers Union* was concerned about a statute that either facially discriminated against interstate commerce or impermissibly controlled conduct outside its borders.[335] This decision was reversed on appeal.[336]

As compared to projects involving RPS and carbon control, projects involving SBC funds do not provide in-state job growth and do not increase the in-state tax base. In the absence of congressional action, the Commerce Clause does not prohibit states from participating in the market and favoring its own citizens.[337] Some states impose *de jure* or *de facto* restrictions on SBC funds to in-state projects.[338] Illinois, for example, restricts use of its SBC funding to "developing new renewable energy resources and clean coal

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333. *See id.* at 1094 ("Although these approaches may be less desirable, for a number of reasons, Defendants have failed to establish there are no nondiscriminatory means by which California could serve its purpose of combating global warming through the reduction of GHG emissions."); *see, e.g.*, Dean Milk Co. v. City of Madison, 340 U.S. 349, 354–55 (1951) (finding that the state cannot discriminate against interstate commerce, "even in the exercise of its unquestioned power to protect the health and safety of its people, if reasonable nondiscriminatory alternatives, adequate to conserve legitimate local interests, are available.").

334. *Rocky Mountain Farmers Union*, 843 F.2d at 1094 (citing *Dean Milk*, 340 U.S 349); *see also Dean Milk*, 340 U.S. at 354.

335. *See Rocky Mountain Farmers Union*, 843 F. Supp. 2d at 1094. *Compare* Brown-Forman Distillers Corp. v. N.Y. State Liquor Auth., 476 U.S. 573, 580 (1986) ("While a State may seek lower prices for its consumers, it may not insist that producers or consumers in other States surrender whatever competitive advantages they may possess."), *with* Baldwin v. G.A.F. Seelig, Inc., 294 U.S. 511, 521 (1935) holding that one state "has no power to project its legislation into [another state] by regulating the price to be paid in that state for [products] acquired there."), *and* Daghlian v. Devry Univ., 582 F. Supp. 2d 1231, 1243 (C.D. Cal. 2007) ("[L]egislation favoring in-state economic interests is facially invalid under the dormant Commerce Clause, even when such legislation also burdens some in-state interests or includes some out-of-state interests in the favored classification.").

336. Rocky Mountain Farmers Union v. Corey, et al., 730 F.3d 1070, 1104 (9th Cir. 2013), *petition for cert. filed* (U.S. Mar. 20, 2014) (No. 13-1148).

337. Hughes v. Alexandria Scrap, 426 U.S. 794, 810 (1976).

338. *See, e.g.*, 20 ILL. COMP. STAT. ANN. 687/6-2 (LexisNexis 2013).

technologies for use in Illinois"[339] and specifies that "the criteria [for distributing these funds] should [be to] promote the goal of fostering investment in and the development and use, *in Illinois*, of renewable energy resources."[340] However, the Illinois statute may be open to challenge.

States are currently facing dormant Commerce Clause challenges to both RPS and SBC projects. In a majority of these cases that have been decided on the merits, states have lost at either the trial or appellate levels. Outside the courthouse, constitutional concerns are manifest among states, where approximately three-quarters of states engage in in-state favoritism using state incentives,[341] with each state doing so on an individualized basis,[342] thus foretelling that states could face challenges. Given the long history of energy controversies in dormant Commerce Clause jurisprudence and the recent challenges to state renewable energy policies, states and their citizens may pay a price for not enacting renewable energy policies more carefully.

VII. WHY LEGALLY PERMISSIBLE RENEWABLE INCENTIVES MATTER

First, renewable energy is of key importance. Certain renewable and distributed electric energy technologies are a critical component of future U.S. electric infrastructure due to their inexhaustible nature as well as their greater reliability and efficiency in certain combined heat and power distributed generation.[343] Renewable power is virtually inexhaustible. "Energy used by humankind on the earth equals only approximately 0.01% of the total solar energy reaching

339. *Id.*

340. *Id.* at 687/6-3(b) (1997) (emphasis added); *see also id.* at 687/6-4(b). In establishing the existence of the Renewable Energy Resources Trust Fund, the fund "shall be administered by the Department to provide grants, loans, and other incentives to foster investment in and the development and use of renewable resources as provided in Section 6-3 or pursuant to the Illinois Renewable Fuels Development Program Act." *Id.* at 687/6-4(b).

341. *See supra* notes 102–27.

342. *See supra* notes 93–98.

343. *See, e.g.*, Sara C. Bronin & Paul K. McCary, *Peaceful Coexistence*, PUB. UTIL. FORTNIGHTLY, Mar. 2013, http://www.fortnightly.com/fortnightly/2013/03/peaceful-coexistence (reporting the benefits of macrogrids).

the earth."[344] Solar energy, less than an hour and a half, provides as much potential energy as humankind uses each year.[345] "In fact, no nation on earth uses more energy than the energy content contained in the sunlight that strikes its existing buildings every day."[346] "The solar energy that falls on roads in the United States each year contains roughly as much energy content as all the fossil fuel consumed in the world during that same year."[347] Wind power's global energy potential is thirty-five times world electricity use.[348]

Second, the utility system functions as a regulated public good. Average Americans would likely support accelerated development of renewable energy sources. The electric power system offers an unusual ability to redistribute the costs of electricity as a public good through regulatory order for the following reasons:

- In seventy percent of the states, there is a regulated monopoly on supply of electric power[349] which offers the customers no choice in what goes into that supply and what it costs.
- In 100% of the states, there is a regulated monopoly over transmission and distribution of electric power, giving the customer little choice over how power is delivered and what that costs.

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344. STEVEN FERREY WITH ANIL CABRAAL, RENEWABLE POWER IN DEVELOPING COUNTRIES: WINNING THE WAR ON GLOBAL WARMING 36 (2006) (stating that Canada appealed the WTO ruling in 2013).

345. Jeff Tsao et al., *Solar FAQs* 10 (U.S. Dep't of Energy et al., Working Paper, 2006), http://www.sandia.gov/~jytsao/Solar%20FAQs.pdf ("This theoretical potential represents more energy striking the earth's surface in one and a half hours than worldwide energy consumption in the year 2001 from all sources combined.") (parentheticals omitted).

346. *Id.*

347. *Id.*

348. Amory B. Lovins et al., *Forget Nuclear*, ROCKY MTN. INST. SOLUTIONS, Spring 2008, at 1, 25, http://www.rmi.org/Content/Files/SolutionsJournalSpring2008.pdf.

349. *See State-by-State*, *supra* note 16. Thirty-six states still maintain monopolies on the sale of electric power.

State regulators discriminate in the pricing of both the power commodity and delivery charges to different customers.[350]

Third, there *is* a way to "get there from here." States can—but do not always—use their regulatory authority within constitutional requirements to support sustainable energy. With parties currently suing states and contesting the exercise of state authority, states should focus carefully on the legal contours of permissible regulation of sustainable energy initiatives. This article charts what does and does not meet legal requirements, the inflection points of state and federal authority, and what will avoid a constitutional challenge to sustainable energy policies. An upcoming article being developed by the author will introduce a legally resilient tool to the regulatory arsenal.[351] These tools will guide states in legally implementing renewable energy policies, prevent plaintiffs from successfully challenging these policies in Court, and avoid paying the large fees associated with these challenges.

350. *See* FERREY, *supra* note 27, § 10:17 (discussing rate discounts).

351. Ferrey, *supra* note 24.