Legal History Repeats Itself on Climate Change: The Commerce Clause and Renewable Energy

STEVEN FERREY*

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* Steven Ferrey is Professor of Law at Suffolk University Law School and served as Visiting Professor of Law at Harvard Law School. Since 1993, Professor Ferrey has been primary legal consultant to the World Bank and the U.N. Development Program on their renewable and carbon reduction policies in developing countries, where he has worked extensively in Asia, Africa, and Latin America. He holds a B.A. in Economics from Pomona College, a Juris Doctorate degree and a Master's degree in Regional Energy & Environmental Planning both from U.C. Berkeley and was a postdoctoral Fulbright Fellow at the University of London between his two graduate degrees. He is the author of seven books on energy and environmental law and policy, the most recent of which are STEVEN FERREY, UNLOCKING THE GLOBAL WARMING TOOLBOX (2010); STEVEN FERREY, ENVIRONMENTAL LAW: EXAMPLES AND EXPLANATIONS (8th ed. 2019) (9th ed. forthcoming 2022).; and Law of Independent Power (56th ed. 2021). He also is the author of more than 100 articles on these topics. Professor Ferrey thanks the assistance of his research assistants, Alex Bloom, Briana Mansour, and Abe Wurster.

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INTRODUCTION: CIRCUIT DISCRIMINATION

"History repeats itself,
that's one of the things that's wrong with history."
—Clarence Darrow (1857–1938), American lawyer

Discrimination and power: Federal courts have found that some state renewable power laws violate the U.S. Constitution's Commerce Clause by discriminating against out-of-state renewable energy. At stake is climate change and the near-term future of the planet. After being warned almost a decade ago about their constitutional violations, which states conformed their laws as the Earth has warmed? This Article analyzes which of twenty-two U.S. states flagged as having potentially unconstitutional, discriminatory renewable energy laws a decade ago have conformed their discriminatory renewable energy laws and which have allowed legal history to repeat itself.

The Supreme Court has consistently held that the Constitution's Dormant Commerce Clause bars states from enacting laws or regulations that discriminate by favoring their own commerce or burdening external commerce.[1] The Supreme Court declared that nothing is more in interstate commerce in the U.S. than electric power as every continental U.S. state imports interstate power from adjacent states to meet its needs.[2] Electricity is widely regarded as the second-most important invention since the wheel.[3] Electric power has delivered a value in the

1. *See infra* section I.D.
2. FERC v. Mississippi, 456 U.S. 742, 757 (1982).
3. James Fallows, *The 50 Greatest Breakthroughs Since the Wheel*, THE ATLANTIC (Nov. 2013), https://perma.cc/X77Y-WC68. (Electricity finished behind only the movable type printing press; electricity is essential to operate seven other 'top 50' inventions of all time: The Internet, computers, air-conditioning, radio, television, the telephone, and semiconductors). Electronic books and messaging, displayed only through electricity, are now significantly replacing use of the movable-type press, which

United States of approximately $390 billion annually,[4] exceeding the total amount of corporate income taxes collected in the U.S, even *before* the corporate tax rate was dramatically reduced in 2018.[5]

The Second and Seventh Circuit Courts of Appeals in the last decade struck down state energy regulations that discriminate geographically against interstate commerce in renewable and zero-carbon-emitting electricity.[6] However, different panels of these same Second and Seventh Circuits recently issued identical decisions contrary to their own circuit precedent and Supreme Court precedent in order to allow state geographic discrimination to support in-state nuclear power.[7] This intra-circuit legal stand-off between different panels in the same circuit courts clouds the Constitution's Commerce Clause which has become the legal fulcrum to leverage the determination of the U.S. technical and policy response on climate.

This Article determines whether legal history is repeating itself: How many of the twenty-two states that could have been discriminating geographically a decade ago against out-of-state renewable energy, after admonitions from circuit courts, have ceased such discrimination and which others have not. Part I describes the legal mechanism of state Renewable Portfolio Standard (RPS) Renewable Energy Credits (RECs) programs now operating in twenty-nine states. It examines the first beginnings and evolution of RPS programs in the states, their costs, and impacts. Twenty-two of these twenty-nine states were determined to have discriminatory renewable energy statutes regarding interstate commerce a decade ago. Part I also analyzes the nuances of key Supreme Court Dormant Commerce Clause decisions that prohibit geographic discrimination.

Part II examines the handful of different means by which state RPS programs originally a decade ago may have discriminated against out-of-state renewable energy projects, and groups the states by their different mechanisms. Certain courts reacted: Part II analyzes key Seventh Circuit and Second Circuit Courts of Appeals' decisions, as well as Federal Energy Regulatory Commission (FERC) orders, that found several state energy laws violated the Commerce Clause.[8]

Part III tracks this changing U.S. renewable energy law over time, examining each of the involved twenty-nine state's energy laws then[9] and how each state has

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was invented in China in 1041. *See* Robert Lechêne, *Printing*, ENCYCLOPEDIAS BRITANNICA (last visited Aug. 30, 2021), https://perma.cc/SF6J-LYNT. After this transition, movable print presses were invented in Korea and by Gutenberg in Europe in approximately 1450.

4. Bruna Alves, *Revenue of the Electric Power Industry in the United States from 1970–2017*, STATISTA (July 5, 2021), https://perma.cc/98LF-2TXQ.

5. *Amount of Revenue by Source*, TAX POL'Y CTR. (June 7, 2021), https://perma.cc/K6YJ-AQ6J.

6. *See infra* section I.D.

7. *See infra* at section IV.A.

8. *See infra* at section II.B.

9. *See infra* at section II.A.

or has not modified its program as to geographic discrimination now.[10] Part III charts a detailed legal web of comparative state renewable energy law as to discrimination.[11]

Part IV analyzes two dissonant recent decisions of Second and Seventh Circuit panels regarding Commerce Clause illegality of state energy regulation, each contrary to its own Circuit's prior decisions.[12] These recent decisions also appear contrary to a half-century of Supreme Court precedent.[13] This creates an intra-circuit constitutional stand-off on discriminatory state power regulation in two key circuits affecting fast-changing world climate. To address climate policy at the national level, this unusual circuit court legal conflict can only be resolved by the Supreme Court.

I. THE RENEWABLE PORTFOLIO STANDARD LEGAL MECHANISM

Part I examines how states incentivize and regulate renewable energy, the range of state legal variations, and the last half-century of Supreme Court Commerce Clause precedent outlawing certain discriminatory practices. Renewable Portfolio Standard programs and their Renewable Energy Credits are examined as a mechanism of technology subsidy that passes subsidy costs, which also are addressed in the sections below, not to taxpayers and instead to other electric utility customers. Section one analyzes Renewable Energy Credit programs which focus particularly on subsidizing solar electric generation technology. Detailed analysis of the Massachusetts SMART program is included. This program includes a subsidy mechanism which sets subsidized wholesale state rates to purchase solar power. This new example of using a wholesale rate rather than a Renewable Energy Credit is an important new frontier. This section also analyzes the costs incurred and the cross-subsidies in these programs. The final subsection of Part I sets forth legal federal court precedents which declare that wholesale electric power rates are exclusively within federal authority and that such rates are not within state legal authority.

A. STATE RENEWABLE PORTFOLIO STANDARDS FOR SOLAR POWER

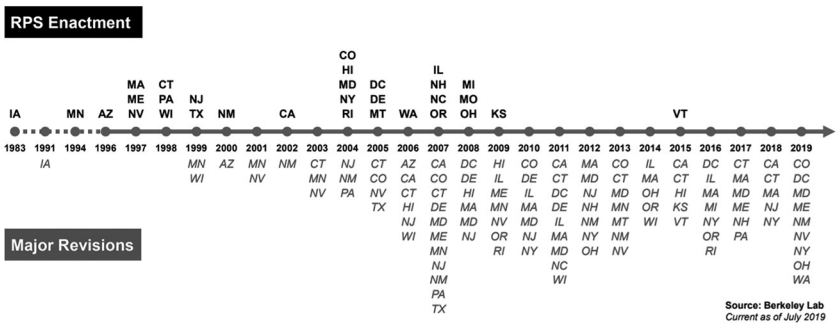
Twenty-nine states, the District of Columbia, and Puerto Rico have enacted state Renewable Portfolio Standards (RPS).[14] A resource portfolio standard requires utilities and certain retail electricity sellers to the public to provide evidence of a state-mandated amount of Renewable Energy Credits as a percentage

10. *See infra* at section III.B.
11. *See infra* at sections II.A–B.
12. *See infra* at section IV.A.
13. *See infra* at section I.D.
14. *See Renewable* & Clean Energy Standards, DATABASE ST. INCENTIVES FOR RENEWABLES & EFFICIENCY (Sept. 2020), https://perma.cc/GZ89-PSB6.

of their electricity sources.[15] An RPS requires that electric utilities—and in some states other competitive retailers of power—purchase evidence that they have acquired the "green attributes" of a regulatorily set percentage of the electricity that they supply to consumers from generators of state-specified renewable energy. If not satisfied, any such retail electric supplier pays penalty amounts to the state government for their shortfall of Renewable Energy Credits (RECs).

The number of RPS states has remained constant over recent time at twenty-nine states. These state RPS programs were initiated between 1983–2015, and have been revised periodically, as shown in Figure 1.[16] More than half of the states have raised the amount of RPS percentages that must be achieved in their state energy supplies, and eighteen have added the so-called "carve-out categories" to focus state incentives on specified renewable energy technologies (typically solar).[17]

FIGURE 1: STATES WITH RPS PROGRAMS AND REVISIONS OVER TIME[18]



15. The resources such as renewables, DSM, or high efficiency fossil combustion, as defined by a particular state, would be included in the company's overall resource portfolio. Portfolio requirements can be applied to electricity sellers, such as generation companies and vertically integrated utilities as a condition of continued market access. The requirements could also be applied to wholesale electricity buyers, such as distribution companies and electricity brokers but the states do not exercise authority over wholesale markets.

16. GALEN BARBOSE, U.S. RENEWABLE PORTFOLIO STANDARDS: 2017 ANNUAL STATUS REPORT, LAWRENCE BERKELEY NAT'L LAB'Y 8 (2017), https://perma.cc/T6RC-YJNM [hereinafter 2017 RPS STATUS REPORT].

17. 2017 RPS STATUS REPORT, *supra* note 16, at 7.

18. GALEN BARBOSE, U.S. RENEWABLE PORTFOLIO STANDARDS: 2019 ANNUAL STATUS REPORT, LAWRENCE BERKELEY NAT'L LAB'Y 10 (2019), https://perma.cc/A5AM-4L84 [hereinafter 2019 RPS STATUS REPORT].

The twenty-nine U.S. states maintaining RPS programs, and their percentage requirements are illustrated in Figure 2. The required state percentage of energy delivered from renewable energy generation resources ranges from two to fifty percent of annual retail electric power sales in different state RPS programs.[19] Many states routinely increase their RPS required percentages as their renewable energy goals increase in successive years.[20]

In RPS programs, electric utilities (and in some deregulated states, other non-utility retail suppliers allowed to compete in the supply of electricity) purchase RECs from eligible renewable generation projects which earn them by generating eligible renewable energy. All states include solar photovoltaic, solar thermal, and wind technologies as eligible RPS technologies.[21] Renewable power generators receive state RECs as a function of their actual power output and can sell those RECs to retail power sellers in the state which retail power sellers are required to acquire different percentages of those RECs each year.[22] Ten regional electronic REC tracking systems assign a unique serial number to each megawatt-hour of renewable electricity generation created, and manage and retire RECs to ensure that each REC is counted only once.[23] RECs are virtual state-created credits reflecting renewable energy generation that can be traded and transferred as permitted by state law.[24] These legally-required RPS programs cover approximately half of nationwide retail electricity sales.[25]

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19. *See generally Find Policies* & Incentives by State, DATABASE ST. INCENTIVES FOR RENEWABLES & EFFICIENCY (last visited Aug. 30, 2021), https://perma.cc/A8WD-63BE.

20. *See*, Figure 2. California periodically strengthened its RPS from 20% renewable energy by 2010, and in 2015 required 50% renewable energy to be used by 2030. *See California Renewables Portfolio Standard*, DATABASE ST. INCENTIVES FOR RENEWABLES & EFFICIENCY (Sept. 24, 2018), https://perma.cc/24P4-CJSS. At a similar time in June 2015, Hawaii established a law requiring 100% of electricity to be renewable before 2045. H.B. 623, 28th Leg., Reg. Sess. (Haw. 2015).

21. *Local Renewable Energy Benefits and Resources*, EPA.GOV (last visited Aug. 30, 2021), https://perma.cc/X66V-AQ27.

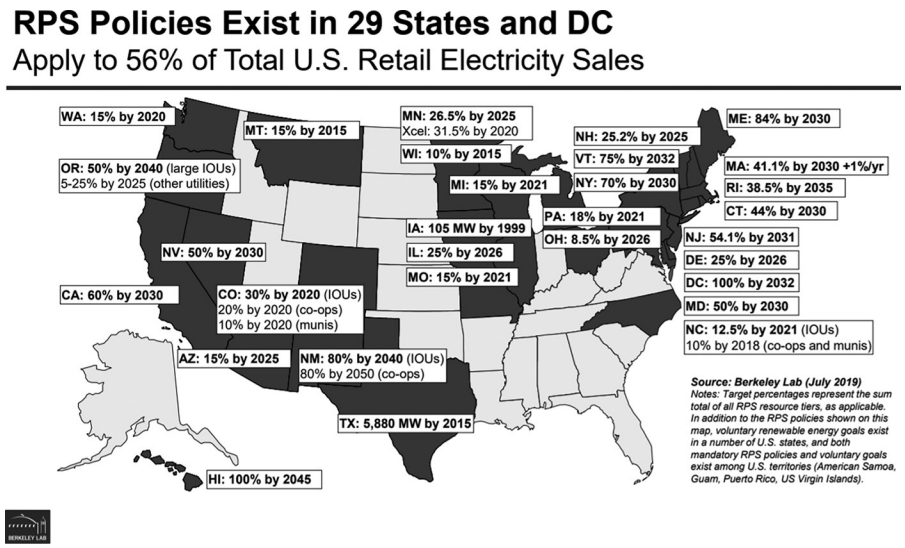
22. *Renewable Energy Credits (RECs)*, ENERGYSAGE (last updated Dec. 23, 2020), https://perma.cc/LX5Y-L9YL.

23. NATIONAL RENEWABLE ENERGY LABORATORY, RENEWABLE ENERGY: HOW DO YOU KNOW YOU HAVE IT, https://perma.cc/C2QS-C4E2.

24. *See,* U.S. ENV'T PROT. AGENCY, RENEWABLE ENERGY CERTIFICATES, https://perma.cc/3b2f-nth8.

25. Ryan Wiser & Galen Barbose, *Renewable Portfolio Standards in the United States*, 154E LAWRENCE BERKELEY NAT'L LAB. 1 (2008).

FIGURE 2: THE TWENTY-NINE U.S. STATES AND DC MAINTAINING RPS PROGRAMS AND THE RENEWABLE ENERGY PERCENTAGE REQUIREMENTS[26]



Nine states and the District of Columbia increased their RPS targets between 2016 and 2018:[27]

- California: sixty percent by 2030 (and one hundred percent zero-carbon by 2045)
- Connecticut: forty percent Class I by 2030
- District of Columbia: one hundred percent by 2032, with ten percent solar by 2041
- Massachusetts: Annual increase of two percent of sales/year over 2020–2029
- Maryland: fifty percent Tier 1 by 2030, including fourteen and a half percent solar and around nine and a half percent off-shore wind
- Maine: fifty percent Class I by 2030
- New Jersey: fifty percent Tier 1 by 2030
- New Mexico: eighty percent by 2040 (and one hundred percent zero-carbon by 2045)
- Nevada: fifty percent by 2030
- New York: seventy percent by 2030 (and one hundred percent zero-carbon by 2040)

26. Galen Barbose, *U.S. Renewables Portfolio Standards: 2019 Annual Status Update*, LAWRENCE BERKELEY NAT'L LAB. 1, 4 (2019), https://perma.cc/A5AM-4L84.

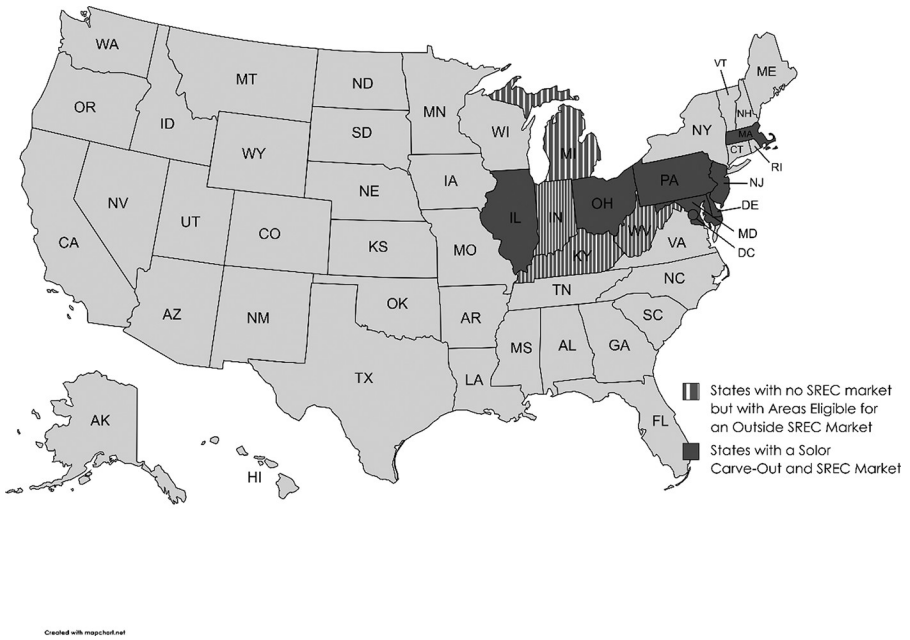
27. *Id.* at 12.

B. SOLAR SRECS

1. States with SREC Programs

A few of the RPS states have also created a subset legal requirement of Solar Renewable Energy Credits (SRECs) through which solar projects can earn additional incentive credits that state utilities and retail electricity suppliers must purchase from the renewable generators on an annual basis pursuant to state law. Seven of the twenty-nine RPS states plus the District of Columbia have created state solar "carve-out" RECs, with four other states having no SREC market but having areas of the state where SRECs can be generated for compliance sales into these seven RPS states' SREC programs. As shown in Figure 3, those states with active SREC programs are Delaware, District of Columbia, Illinois, Maryland, Massachusetts,[28] New Jersey, Pennsylvania, and Ohio.

FIGURE 3: STATES WITH SOLAR RENEWABLE ENERGY CREDIT PROGRAMS[29]



28. Note that Massachusetts stopped accepting new system owners into their SREC program in late 2018, when it transitioned to its "SMART" program to replace solar RECs.

29. *See* SRECTRADE, *Solar Renewable Energy Certificates*, https://perma.cc/PW5T-SQ8S.

These RPS "carve-out" programs provide RECs only to certain eligible solar project generation. Typically, these SRECs are traded at prices greater than the standard RECs prices. Those prices as of 2020 are shown in Table 1.

TABLE 1: ACTIVE U.S. REC MARKETS WITH SOLAR CARVE-OUT PROGRAMS (PRICES ACCURATE AS OF JANUARY 2020)[30]

SREC Market	2020 SREC Price
Washington, DC	$ 440
Massachusetts	$ 315
New Jersey	$ 225
Maryland	$ 77
Pennsylvania	$ 40
Ohio	$ 7.50

2. Impact on U.S. Solar Capacity

As demonstrated in Figure 4, recent data shows twenty-one percent of all wind project development and fifty-nine percent of all solar energy development in the United States occurred in states with RPS programs.[31] Many of the states with the best wind power regimes do not have RPS programs.[32] As part of solar development in states with RPS programs, more than twenty-five percent was in seven of the twenty-nine states with Solar carve-out SREC programs and the remainder in states with generic RPS programs.[33] Since 2000, state RPS programs have been linked to the majority of new solar projects added annually. Likewise, RPS programs were linked to the majority of new wind power project built between 2006–2012.[34]

30. *SREC prices: explaining how to sell your RECs in the U.S.*, ENERGYSAGE (last visited Aug. 31, 2021), https://perma.cc/VHA8-GALF.

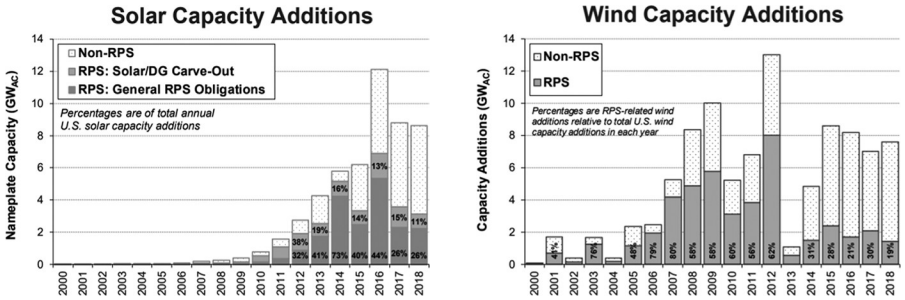
31. 2017 RPS STATUS REPORT, *supra* note 16, at 18.

32. *Id.*

33. *Id.*

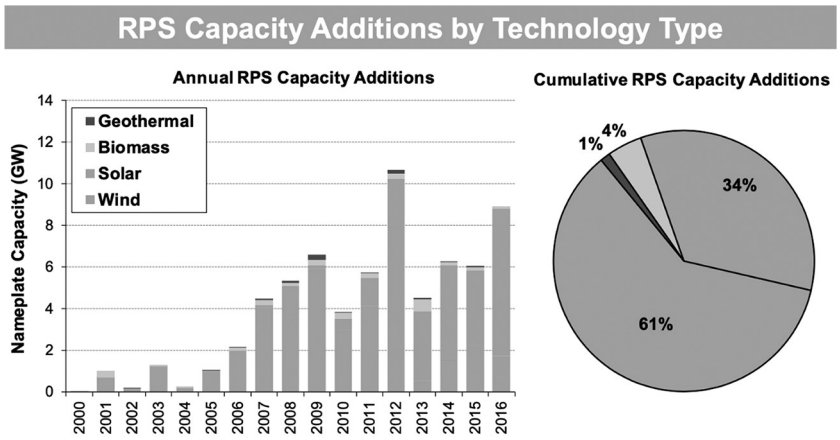
34. *Id.*

FIGURE 4: WIND AND SOLAR CAPACITY ADDITIONS 2000–2016.[35]



The breakdown of the types of renewable energy projects linked to state RPS programs between solar, wind, biomass, and geothermal technologies is shown in Figure 5.

FIGURE 5: BREAKDOWN OF RENEWABLE ENERGY PROJECTS BY TYPE[36]



Notes: "RPS Capacity Additions" represent RE capacity contracted to entities subject to an RPS or sold on a merchant basis into regional RPS markets. On an energy (as opposed to capacity) basis, wind represents approximately 75%, solar 16%, biomass 5%, and geothermal 4% of RPS-related renewable energy growth.

The incentives in solar carve-out programs have led to a significant increase in solar projects nationwide, with a recent large increase in non-residential projects. In the last five years, the most significant increase is in so-called "community solar," raising certain legal issues regarding whether some of these state "community solar"

35. 2019 RPS STATUS REPORT, *supra* note 18, at 19.
36. 2017 RPS STATUS REPORT, *supra* note 16, at 17.

provisions are or are not constitutionally preempted pursuant to the Federal Power Act.[37]

3. The SMART Program

Massachusetts illustrates a future subsidization of RPS RECs programs with a tariff issue, which is novel and not yet tested in court. Massachusetts entered a different legal dimension when it created wholesale power sale rates for solar power, which was part of a new requirement imposed on Massachusetts utilities to replace the state's RECs program after the RECs program and net metering in the state[38] had reached the maximum capacity allowed by the legislature. The Massachusetts Department of Energy Resources (DOER) launched its RPS SREC programs in 2010 with Massachusetts SREC-I, as a Massachusetts-specific solar carve-out, carrying a capacity limit cap of 400 Mw, which limit was met and exceeded quickly in the spring of 2013.[39] In 2014, the DOER launched its SREC-II program, which allowed Massachusetts projects to install 1,600 Mw of solar capacity by 2020.[40] The SREC-II program terminated two years earlier than expected in November 2018 when SREC-II surpassed its established goal and cap of 1,600 Mw of solar eligible and participating.[41]

Thereafter, the SMART (Solar Massachusetts Renewable Target) Program was launched to replace SREC with a tariff system.[42] The Massachusetts SREC program granted differentiated SREC value rewards, ranging from 0.7 SRECs to 1.0 SRECs per solar MWh generated based on the off-taker of power (an "off-taker" is the party to whom the electric power is sold) and land-use characteristics unrelated to the solar energy production itself.[43] The Massachusetts SMART system tariffs awarded different values based on certain social equity values rather than based only on the value of the solar energy produced for the distribution grid.[44]

The RPS solar Carve-Out I program, which targeted solar deployment between 2010–2014, sought to achieve 1.6% solar power deployment in the state by 2020. The subsequent RPS solar Carve-Out II program, which targeted solar deployment from 2014–2020, sought to achieve 3.8% solar power in the state by the same 2020 year, and the SMART program, which began in 2018, seeks to

37. *See infra* notes 75, 123.

38. *See* Steven Ferrey, *Virtual Nets and Law: Power Navigates the Supremacy Clause*, 24 GEO. INT'L ENV'T L. REV. 267, 274 (2012).

39. Renewable Energy Portfolio Standard - Class I, 225 C.M.R. § 14.00 (2021). Pursuant to emergency regulations and revisions to the RPS Class I Regulation, the DOER continued to qualify projects under SREC-I through the first half of 2014, after the initial 400 Mw limit was reached.

40. SRECTRADE, *Solar Renewable Energy Certificates*, *supra* note 29.

41. *Id.*

42. Solar Massachusetts Renewable Target (Smart) Program, 225 C.M.R. § 20.00 (2020).

43. Renewable Energy Portfolio Standard - Class I, 225 C.M.R. § 14.00 (2021).

44. Solar Massachusetts Renewable Target (Smart) Program, 225 C.M.R. §§ 20.07–.08 (2020).

incentivize the deployment of 3,200 Mw of solar power. The maximum size for eligible individual solar projects in the SMART program is five Mw AC (alternating current), and after each 200 Mw block of the target 3,200 Mw is subscribed by projects, the tariff received by future solar projects for each successive 200 Mw block of solar power decreases by four percent for each successive block.[45] At the beginning of 2020, Massachusetts SRECs were trading in the vicinity of $300/SREC,[46] maintaining their position as the most remunerative large SREC state program in the nation.[47]

The SMART program in Massachusetts operates through a complex set of calculations. It differentiates the amount of subsidy received by a solar project by the utility that serves the project location, the applicable residential, commercial, or industrial retail electric rate structure, and a complex set of 'adders' and 'subtractors' affecting the final received SMART tariff value for various unrelated land-use and power off-taker characteristics that are favored and disfavored by state policy.[48] There are certain preferred locations where no 'subtractors' apply to agricultural land-uses for solar and to non-agricultural building- or canopy-mounted solar panels as well as if a solar project is sited at a 'brownfield' or a current or former landfill, or for certain not that large solar projects.[49]

The size of a project also affects the ability of the solar project to earn size-sensitive 'multipliers' in addition to the base SMART tariff; multipliers can range from 110% – 230% as shown in Table 2.[50] As well, size determines whether a solar project receives the SMART tariff for 10 years or 20 years.[51] Each of these, as well as whether the off-taker of the solar power is a low-income customer, influences the ultimate tariff and subsidy that the solar generation customer receives and whether that subsidy lasts for 10 years or 20 years before ceasing.[52] Therefore, the above-market tariff that the solar project receives as a subsidy is influenced by multiple factors wholly unrelated to the cost, value, or benefit of solar power itself and is instead based on its generation of electricity, location and land-use, former use of the property, size of the project, and who utilizes the non-differentiated identical electric power produced.

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45. *Id.* §§ 20.05–.07.

46. *SRECs in Massachusetts: prices and program status*, ENERGYSAGE (last visited Aug. 31, 2021), https://perma.cc/LRP3-DD8W.

47. *SRECs in Massachusetts, supra* note 30. The District of Columbia had SRECs trading at a higher value, however, there is not much land available in the District for larger field-mounted solar projects.

48. Solar Massachusetts Renewable Target (Smart) Program, § 20.08 (2020).

49. *Id.*

50. *Id.* at § 20.07(b).

51. *Id.*

52. *See (SMART) Solar Incentive Calculator,* MASS.GOV (Sept. 3, 2021, 4:48 PM), https://perma.cc/QVL8-LTQU.

TABLE 2[53]

Massachusetts SMART Program

Under the SMART program, each project builds-up its SMART incentive based on the type of solar project being built:

Base Compensation Rate Multipliers: projects up to 1MW	
Generation Unit Capacity	**Base Compensation Rate Factor (% of Clearing Price**
Low Income Solar Tariff Generation Unit less than or equal to 25 kW AC	230%
Less than or equal to 25 kW AC	200%
Greater than 25 kW to 250 kW	150%
Greater than 250 kW to 500 kW	125%
Greater than 500 kW to 1,000 kW	110%

The Massachusetts SMART program may be the next advanced iteration of SREC programs. Its intricacy is in its details of tariff subsidy differentiation by off-taker and locational factors that do not pertain to the value of the solar electricity produced, grafting welfare policy and land-use policy, respectively, onto electricity regulation. Discussed below are related legal issues as to whether states retain sufficient legal authority to graft such factors onto *wholesale* power rates, which aptly characterize the SMART program wholesale sale of power from the solar project owner to the local utility.[54]

4. The States and RPS REC Prices

What is clear is that state RPS programs incentivizing solar power have helped to increase the amount of renewable solar power in the U.S. in recent years, as shown in Figure 4. However, legally, an issue is whether state RPS programs discriminate against electricity used in the state related to the electricity's place of geographic origin, raising potential Dormant Commerce Clause violation issues.[55] New Jersey's SREC market is the largest in the nation. For a period of time before January 2011, New Jersey solar energy systems were eligible to apply to earn credits in the District of Columbia SREC market; now, New Jersey-located solar energy systems are only eligible to earn RECs created in the New Jersey SREC market.[56] At the beginning of 2020, New Jersey SRECs were

53. 225 MASS. CODE REGS. 14.07 (2021).
54. *See infra* at section I.D.
55. *See* discussion *infra* section I.D.
56. *SRECs in Massachusetts: prices and program status*, ENERGYSAGE (last visited Aug. 31, 2021), https://perma.cc/LRP3-DD8W.

trading in the price vicinity of $225/SREC.[57] SREC prices in different states vary substantially.

Until 2017, Pennsylvania allowed solar energy systems located outside of the state to register for and participate in the Pennsylvania SREC program.[58] Before January 2011, Pennsylvania-sited photovoltaic (PV) systems were eligible to create credits that would apply to the District of Columbia SREC market.[59] In 2017, Pennsylvania restricted geographic location for Pennsylvania SRECs to Pennsylvania-sited solar photovoltaic systems after October 30, 2017.[60] Now, Pennsylvania-sited PV systems are only eligible for Pennsylvania and Ohio SRECs.[61]

A significant number of PV systems sited in Pennsylvania and other states bordering Ohio, including Pennsylvania, Michigan, Indiana, Kentucky, and West Virginia, attempt to sell their SRECs in Ohio, but when Ohio froze its otherwise increasing RPS requirements in 2014, a surplus of SREC supply resulted for a frozen SREC demand by purchasing Ohio utilities.[62] The price value of a SREC credit in Ohio fell from $25/SREC to approximately $6/SREC at the beginning of 2020.[63] Before 2011, Ohio-sited PV systems were eligible to apply to the District of Columbia SREC market.[64] After 2011, Ohio-sited PV systems are only eligible to sell SRECs in Ohio and Maryland.[65]

In terms of geographic discrimination, only Maryland-sited PV power generation facilities may register to create SRECs for the Maryland SREC program.[66] Beginning in 2015, the Maryland SREC market became oversupplied with credits, and in early 2017, the Maryland 2016 Clean Energy Jobs Bill provided a slight increase in the state RPS requirements beginning in 2017.[67] At the beginning of 2020, Maryland SRECs were being bid at a value of approximately $75/SREC.[68]

The District of Columbia, with little land available for larger field-mounted solar projects, has an undersupply of solar projects, and its SREC trading prices at the beginning of 2020 hovered near $400/SREC.[69] In Delaware, Delmarva Power proposed the implementation of a SREC procurement program called SREC Delaware.[70] It features an Alternative Compliance Price ("ACP") paid by utilities

57. *Id.*
58. *See* SRECTrade, *SREC Markets, Pennsylvania*, https://perma.cc/ZEK4-3HMU.
59. *Id.*
60. *Id.* (Pennsylvania Act No. 40).
61. *Id.*
62. *See Ohio,* SRECTRADE (Sept. 3, 2021, 1:10 PM), https://perma.cc/KL8G-ZBZB.
63. *Id.*
64. *Id.*
65. *Id.*
66. *See Maryland,* SRECTRADE (Sept. 3, 2021, 12:23 PM), https://perma.cc/B5YW-4V86.
67. *Id.*
68. *Id.*
69. *District of Columbia*, SRECTRADE, https://perma.cc/FDX3-4YAU.
70. *Delaware*, SRECTRADE, https://perma.cc/GA8A-NUN3.

to the state as a penalty if they do not procure enough annual SRECs of $400/SREC.[71]

RECs and SRECs and demand and supply factors determine their trading prices when solar generators sell them to utilities and retail power suppliers, as shown in Figure 5. The effective price cap for REC or SREC trades is established by the market and capped by each state's Alternative Compliance Payment price. The ACP in many states declines over time, as the price of solar PV panels have declined as anticipated. The ACPs for the five SREC states and the District of Columbia are shown in Table 3. State-to-State, there is a 6:1 difference in the state ACP prices.

TABLE 3: ACPS IN FIVE STATES AND D.C. WITH SOLAR RENEWABLE CREDIT PROGRAMS 2021

New Jersey[72]	**$248/Mwh**
Massachusetts[73]	**$448/Mwh**
Maryland[74]	**$ 80/Mwh**
D.C.[75]	**$500/Mwh**
Ohio[76]	**$ 45/Mwh**
Delaware[77]	**$150/Mwh**

C. THE COST TO CONSUMERS OF REC AND SREC PROGRAM SUBSIDIES

RPS programs were denominated as one form of "backdoor" renewable energy subsidies.[78] Where a solar project receives a solar SREC in those states providing

71. *Id.*

72. DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY [DSIRE], *Renewables Portfolio Standard: Program Overview – New Jersey* (last updated June 8, 2018), https://programs.dsireusa.org/system/program/detail/564/renewables-portfolio-standard.

73. DSIRE, *Renewables Portfolio Standard: Program Overview – Massachusetts* (last updated July 9, 2018), https://programs.dsireusa.org/system/program/detail/479/renewable-portfolio-standard (note that this data is the 2017 Massachusetts value, not the 2021 value).

74. DSIRE, *Renewables Portfolio Standard: Program Overview – Maryland* (last updated May 18, 2021), https://programs.dsireusa.org/system/program/detail/1085/renewable-energy-portfolio-standard.

75. DSIRE, *Renewables Portfolio Standard: Program Overview – District of Columbia* (last updated May 18, 2021), https://programs.dsireusa.org/system/program/detail/303/renewable-portfolio-standard.

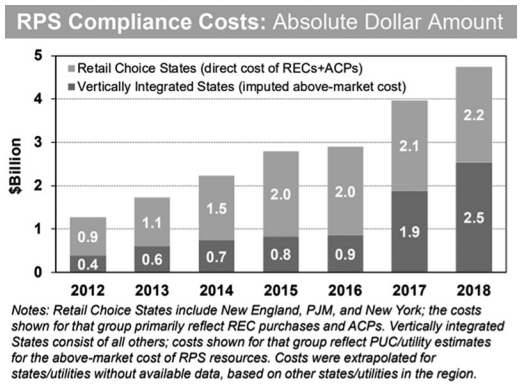
76. DSIRE, *Renewables Portfolio Standard: Program Overview – Ohio* (last updated May 20, 2021), https://programs.dsireusa.org/system/program/detail/2934/alternative-energy-portfolio-standard.

77. DSIRE, *Renewables Portfolio Standard: Program Overview – Delaware* (last updated October 15, 2021), https://programs.dsireusa.org/system/program/detail/1231/renewables-portfolio-standard.

78. Robert Glennon & Andrew M. Reeves, *Solar Energy's Cloudy Future*, 1 ARIZ. J. ENV'T L. & POL'Y 91, 106 (2010).

them, as shown in Figures 1, 2, and 3, in a state such as Massachusetts, it creates an SREC subsidy of $0.20–0.50/Kwh delivered to the solar project owner.[79] This amount of subsidy represents a five-fold to thirteen-fold added revenue gain in addition to and compared to the average approximately $0.035/Kwh wholesale value of the electricity produced in the U.S. during the last decade.[80] RPS compliance costs were $4.7 billion in 2018, which when spread over retail rates was an increase of 2.6% of average retail electricity bills in RPS states; these values were $4.0 billion and 1.7% of retail bills in 2017.[81] The cost to ratepayers and taxpayers of more modest RPS programs for subsidies for renewable energy five to ten years ago is shown in Figure 6.[82]

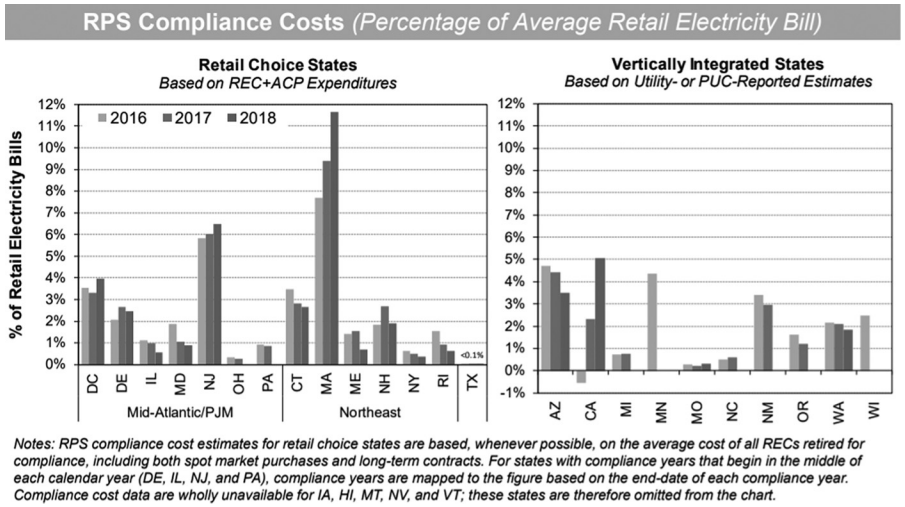
FIGURE 6[83]



Through 2016, as shown in in Figure 7, RPS programs in deregulated states such as New Jersey and Massachusetts increased each of their retail customer's monthly utility bill by seven to eight percent.[84] California's RPS program, in a traditionally regulated state, increased California retail customer bills by twelve percent by 2016 before its renewable targets became more aggressive, as shown in Figure 7.[85]

79. 2017 RPS STATUS REPORT, *supra* note 16.
80. *See* INDEPENDENT SYSTEM OPERATOR NEW ENGLAND, https://perma.cc/T6MN-YF94 (last visited Sept. 8, 2020).
81. 2019 RPS STATUS REPORT, *supra* note 18, at 37, 40.
82. *Id*.
83. *Id*.
84. 2017 RPS STATUS REPORT, *supra* note 16, at 36.
85. *Id*.

FIGURE 7[86]



Notes: RPS compliance cost estimates for retail choice states are based, whenever possible, on the average cost of all RECs retired for compliance, including both spot market purchases and long-term contracts. For states with compliance years that begin in the middle of each calendar year (DE, IL, NJ, and PA), compliance years are mapped to the figure based on the end-date of each compliance year. Compliance cost data are wholly unavailable for IA, HI, MT, NV, and VT; these states are therefore omitted from the chart.

D. THE DORMANT COMMERCE CLAUSE RESTRICTS STATE POWER REGULATION

The Dormant Commerce Clause, created through a series of Supreme Court precedents construing the Constitution's Commerce Clause,[87] prohibits state regulation that directly or indirectly discriminates against or unduly burdens interstate commerce of any kind.[88] Local ownership of commerce required by state regulation or practice is particularly vulnerable to challenge: In "our dormant Commerce Clause cases, if a state law discriminates against . . . nonresident economic actors, the law can be sustained only on a showing that it is narrowly tailored to 'advanc[e] a legitimate local purpose.' *Department of Revenue of Ky. v. Davis*, 553 U.S. 328 (2008)."[89]

Even indirect discrimination in interstate electricity generation, can violate the Dormant Commerce Clause. With the exception of Texas, the Supreme Court has held that all power transmitted is instantaneously in interstate commerce, and subject to federal rather than state jurisdiction:

> In addition, unlike the local power networks of the past, electricity is now delivered over three major networks, or "grids" in the continental United States. Two of these grids—the "Eastern Interconnect" and the "Western

86. *Id.*

87. U.S. CONST. art. 1, § 8.

88. *See* Dep't of Revenue of Ky. v. Davis, 553 U.S. 328, 338 (2008) (quoting Oregon Waste Systems, Inc. v. Dep't of Envt'l of State, Quality of Or., 511 U.S. 93, 100 (1994)).

89. Tennessee Wine & Spirits Retailers Ass'n v. Thomas, 139 S. Ct. 2449 (2019); followed in NPG, LLC v. City of Portland, No. 2:20-cv-00208-NT (D. Me. Aug. 14, 2020).

> Interconnect"–are connected to each other. It is only in Hawaii and Alaska and on the "Texas Interconnect"—which covers most of that State–that electricity is distributed entirely within a single State. In the rest of the country, any electricity that enters the grid immediately becomes a part of a vast pool of energy that is constantly moving in interstate commerce. As a result, it is now possible for power companies to transmit electric energy over long distances at a low cost.[90]

Geographic discrimination pursuant to the Dormant Commerce Clause is placed by courts under judicial "strict scrutiny," and the Supreme Court has held that "even if environmental preservation were the central purpose of the pricing order, that would not be sufficient to uphold a discriminatory regulation."[91] A court applying strict scrutiny constitutional review to a state regulation can strike a small or indirect discriminatory impact.[92] A geographically discriminatory impact is not expected or required to expressly mention geography and may appear facially neutral but can impermissibly exert an unconstitutional geographical impact on commerce, directly or indirectly:

> "Such a [contrary] view, we have noted, 'would mean that the Commerce Clauseof itself imposes no limitations on state action . . . save for the rare instance wherea state artlessly discloses an avowed purpose to discriminate against interstategoods.' *Dean Milk Co. v. Madison*, 340 U.S. 349, 354, 71 S. Ct. 295, 298, 95L.Ed. 329 (1951)."[93]

A geographically discriminatory regulation or law is regarded by the courts as "virtually per se invalid."[94] A statute can discriminate indirectly against interstate commerce and is subject to strict judicial skepticism: "Statutes that discriminate by 'practical effect and design,' rather than explicitly on the face of the regulation, are similarly subjected to heightened scrutiny."[95] Even a facially neutral statute or regulation, not expressly mentioning political boundaries but accomplishing geographic discrimination, is subject to the same "strict scrutiny" standard to determine whether geographic discriminatory impacts result.[96] Under strict

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90. New York v. FERC, 535 U.S. 1, 7–8 (2002).

91. West Lynn Creamery v. Healy, 512 U.S. 186, 202 n. 20 (1994).

92. *See* Bacchus Imports, Ltd. v. Dias, 468 U.S. 263, 270 (1984) ("A finding that state legislation constitutes 'economic protectionism' may be made on the basis of either discriminatory purpose, or discriminatory effect" (citing Hunt, 432 U.S. 333, 352–53 (1977); Philadelphia v. New Jersey, 437 U.S. 617, 624 (1978)).

93. Hunt v. Washington State Apple Adver. Comm'n, 432 U.S. 333, 350 (1977).

94. Dep't of Revenue v. Davis, 553 U.S. 328, 338–39 (2008).

95. Tri-M Group, LLC v. Sharp, 638 F.3d 406, 427 n.28 (3d Cir. 2011).

96. C&A Carbone, Inc. v. Town of Clarkstown, N.Y., 511 U.S. 383 (1994) ("[O]ordinance is no less discriminatory because in-state or in-town processors are also covered by the prohibition."); Hunt v. Washington State Apple Advertising Comm'n, 432 U.S. 333, 352–53 (1977) ("[T]he Court has viewed with particular suspicion state statutes requiring business operations to be performed in the home State that could more efficiently be performed elsewhere. Even where the State is pursuing a clearly legitimate local interest, this particular burden on commerce has been declared to be virtually per se illegal. Foster–

scrutiny, the Supreme Court will strike all subsidies of in-state businesses, even if the taxes to fund the subsidies are imposed equally on all commerce in the state.[97]

The scientific and physical reality of electric power transmission is that it moves instantaneously and virtually seamlessly in interstate commerce across state boundaries through electric grid wires within the lower 48 states, with the exception of parts of Texas; Texas chooses to separate its electrical grid from the rest of the continental United States.[98] A subset of the twenty-two states that had RPS programs that discriminated geographically in some manner when surveyed a decade ago have eliminated that discrimination. When confronted with Dormant Commerce Clause challenges because of geographic discrimination, some state programs only survived the challenge by either modifying the geographic discrimination to moot the legal challenge or undertaking other procedural maneuvers: Some states successfully avoided constitutional challenges by raising standing or procedural defenses based on lack of private rights of action to gain a procedural summary judgement before the courts reached the discriminatory merits of the challenge.[99]

II. THE LEGAL CONTROVERSY SURROUNDING STATE RENEWABLE ENERGY DISCRIMINATION

For the first time, the issue of state discrimination in state REC laws was examined in detail in a 2012 law review article published at the University of Texas.[100] It found that the majority of the twenty-nine states with RPS RECs programs discriminated in the structure of their RPS programs in favor of in-state or in-region renewable power, and/or against out-of-state renewable energy that instantaneously flowed through interstate commerce into their states and was consumed by their citizens.[101] Figure 8 shows those eleven states with solar "carve-out" incentives as a matter of state law, as well as the seven states that have constitutionally-questionable in-state geographically-determined REC multipliers as of the date of this figure's data.[102]

Fountain Packing Co. v. Haydel, 278 U.S. 1; Johnson v. Haydel, 278 U.S. 16; Toomer v. Witsell, 334 U.S. 385."); *see also Fort Gratiot*, 504 U.S. at 361 (1992).

97. West Lynn Creamery, Inc. v. Healy, 512 U.S. 186 (1994); All. for Clean Coal v. Miller, 44 F.3d 591, 596 (7th Cir. 1995) ("[T]he Illinois Coal Act, like the . . . order in *West Lynn*, has the same effect as a 'tariff or customs duty—neutralizing the advantage possessed by lower cost out of state producers.'").

98. New York v. FERC, 535 U.S. 1, 16 (2002) (transmissions on the interconnected national grids constitute transmissions in interstate commerce).

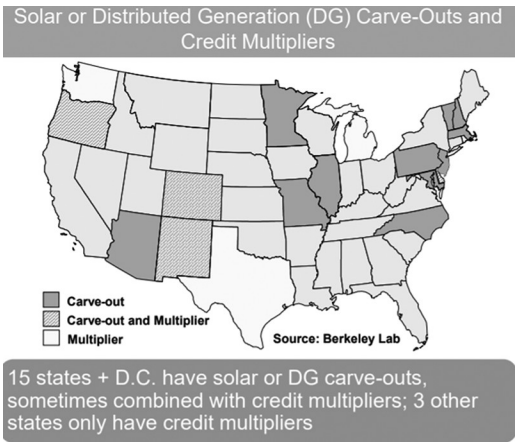
99. *See infra* note 245.

100. Steven Ferrey, *Threading the Constitutional Needle with Care*, 7 UNIV. TEX. J. OIL, GAS & ENERGY L., 59 (2012).

101. *Id.*

102. 2019 RPS STATUS REPORT, *supra* note 18, at 9.

FIGURE 8: STATES WITH SOLAR CARVE OUT INCENTIVES[103]



After that 2012 law review article was published analyzing state practices in all twenty-nine states with renewable energy RPS programs, Judge Richard Posner made the article the foundation for one determination in the decision in this century's most closely watched case regarding the balance between state and federal authority over renewable energy. Writing for a unanimous Seventh Circuit Court of Appeals, Posner declared that Michigan and other Midwest states could not provide RPS RECs credit subsidies only to in-state-produced renewable energy; to deny them to out-of-state renewable energy transmitted into their states would violate the Dormant Commerce Clause of the Constitution.[104] The article also was cited by the Massachusetts Supreme Judicial Court in 2020 as its authority to uphold a new $1 billion Massachusetts program for renewable energy.[105]

The exact same twenty-nine states have maintained their RPS RECs programs without any new states adopting RPS programs, and none of the twenty-nine states have terminated their RPS programs during the last decade since this Article.[106] Now in the third decade of the 21st century, it is still those exact twenty-nine states there in 2012—no more, no less—that have maintained and preserved their RPS RECs programs. These programs have remained the most important renewable incentives in the United States during the 21st century, as

103. *Id.*

104. Illinois Com. Comm'n v. Federal Energy Regul. Comm'n, 721 F.3d 764 (7th Cir. 2013) (citing Ferrey, *Threading the Constitutional Needle*, *supra* note 100 as authority by Judge Posner speaking for a unanimous federal Circuit Court of Appeals).

105. Nextera Energy Resources, LLC v. Ma. Department of Public Utilities & Others, SJC-12886 (Mass. SJC September 2020) (citing Professor Ferrey's article regarding allowable state action on renewable energy).

106. *See infra* section II A–B.

federal tax incentives have fluctuated, decreased, and terminated.[107] This Article examines how this discriminatory landscape has, and has not, changed. Section II.A examines the RPS legal structure of the twenty-nine states in 2012 in terms of geographic Commerce Clause discrimination. Then, section II.B provides a legally detailed 2022 examination of constitutionally-suspect Commerce Clause RPS discrimination in those same RPS states today, and possible consequences.

A. THE LEGAL POSTURE OF THE TWENTY-NINE RPS STATES WHEN THE DORMANT COMMERCE CLAUSE WAS FIRST RAISED REGARDING RPS STATE DISCRIMINATION

As of a decade ago, twenty-nine states had enacted state RPS programs.[108] At that time, a majority of these programs discriminated in some way in favor of renewable energy generated in the state or immediate geographic region, and against renewable energy generated in other states.[109] Some prohibited their REC credits for out-of-state or out-of-region generation facilities. [110] A number of the twenty-nine states with RPS programs a decade ago incorporated credit multipliers, geographic restrictions, or preferences to promote in-state/in-region generation of renewable energy, to the disadvantage of external power, in the following magnitudes:

- **In-state REC multipliers in 27.5% of RPS states.** Eight of the twenty-nine RPS states, or 27.5%, had REC multipliers for in-state generation: Arizona,[111] Colorado,[112] Delaware,[113] Maine,[114] Michigan,[115] Missouri,[116] Nevada,[117] and Washington.
- **In-state generation REC requirement in 14% of RPS states.** Four of the twenty-nine RPS states, or 14%, including two states that also provide for a geographically discriminatory REC multiplier (below), had either a requirement or preference for in-state generation: California,[118] Colorado,[119] North Carolina,[120] and Ohio.[121]

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107. *See,* Steven Ferrey, *Counter-Intuitive Climate Forcing: Post Paris Agreement Corporate Incentives*, 43 VT. L. REV. 652–55 (2019).

108. Ferrey, *Threading the Constitutional Needle*, *supra* note 100.

109. *Id.*

110. K.S. Corey, B.J. Sweazey, *Renewable Portfolio Standards in the States: Balancing Goals and Implementation Strategies*. NAT'L RENEWABLE ENERGY LABORATORY, NREL/TP Report No. 670-41409 at 15 (Dec. 2007), https://pubs.naruc.org/pub/FA864C03-DC7D-B239-9E29-4D68D1807BE4.

111. ARIZ. ADMIN. CODE § R14-2-1806(D)–(E) (2009).

112. COLO. REV. STAT. § 40-2-124(c)(V)(A)–(D), (c)(IX), (d) (2013).

113. DEL. CODE ANN. tit. 26, § 356(a)(1), (d)–(e) (2012).

114. ME. REV. STAT. tit. 35-A, § 3605 (2010).

115. MICH. COMP. LAWS SERV. § 460.1039(1) (LexisNexis 2010).

116. MO. ANN. STAT. § 393.1030(1) (West 2013).

117. NEV. REV. STAT. ANN. § 704.7822 (LexisNexis 2011).

118. California Renewable Energy Incentives/Policies, DSIRE, https://perma.cc/PDL2-ARNB (explaining that a maximum of 25% 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).

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

- **In-state product or labor preferences in 14% of RPS states.** Four of the twenty-nine RPS states, or 14%, provided program preferences for the use of in-state manufactured products or in-state labor forces: Arizona,[122] Delaware,[123] Michigan,[124] and Montana.[125]
- **In-region generation REC requirement in 38% of RPS states.** Eleven of the twenty-nine RPS states, or 38%, had a requirement for in-region (rather than in-state) geographic location of renewable electric generation to be awarded RECs, including one that also had in-state multipliers and one with an in-state preference: Connecticut,[126] Illinois,[127] Maine,[128] Maryland,[129] Massachusetts,[130] New Hampshire,[131] North Carolina, Ohio,[132] Oregon,[133] Pennsylvania,[134] and Rhode Island.[135]
- **In-state distributed power requirement in 38% of RPS states.** Eleven of the twenty-nine states, or 38%, had an in-state requirement for certain distributed power.[136]
- **In-state capital or labor benefit in 15% of RPS states.** Four of the twenty-nine states, or 14%, had a benefit for an in-state capital component or labor.[137]
- **Multiple of the above preferences.** Some states had multiple multipliers and preferences.[138]

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120. N.C. GEN STAT. ANN. § 133.8(b)(2)(e) (West 2012).
121. OHIO REV. CODE ANN. § 4928.64(B)(3) (LexisNexis 2012).
122. ARIZ. ADMIN. CODE § R13-2-1806(D)–(E) (2007).
123. DEL. CODE. ANN. tit. 26 § 351(b)–(c) (2009).
124. MICH. COMP. LAWS SERV. § 460.1001(2)(a)–(d) (LexisNexis 2010).
125. MONT. CODE ANN. § 69-3-2005(3)(a) (2013).
126. CONN. GEN. STAT. ANN. § 16-245a(b) (West 2013).
127. 20 ILL. COMP. STAT. ANN. 3855/1-56(b) (West 2012).
128. 65-407-311 ME. CODE R. § 6 (LexisNexis 2011).
129. MD. CODE REGS. 20.61.03(D) (2011).
130. MASS. ANN. LAWS ch. 25A, § 11F(a) (LexisNexis 2011).
131. N.H. REV. STAT. ANN. § 362-F:6(I) (LexisNexis 2011).
132. OHIO REV. CODE ANN. § 4928.64(C)(5) (LexisNexis 2012).
133. OR. REV. STAT. § 469A.135(1)(a), (2) (2011).
134. 73 PA. STAT. AND CONS. STAT. § 1648.4 (West 2007).
135. 39 R.I. GEN. LAWS § 39-26-4(d) (2016).
136. Ferrey, *Threading the Constitutional Needle*, *supra* note 100, at 75–77 (2012) (cited as authority by a unanimous 7th Circuit Court of Appeals upholding Supremacy Clause power under the Federal Power Act in Illinois Commerce Commission, et al. v. Federal Regulatory Commission, 721 F.3d 764 (7th Cir. 2013); cited by the Massachusetts Supreme Judicial Court as authority regarding qualifications for sustainable energy and when such energy contributes to system reliability to justify a $1 billion renewable energy program of Massachusetts, Nextera Energy Resources, LLC v. Department of Public Utilities & Others, SJC-12886 (Mass. SJC 2020), https://law.justia.com/cases/massachusetts/supreme-court/2020/sjc-12886.html.
137. Steven Ferrey, *Alternative Energy in a Spaghetti Western: Clint Eastwood Confronts State Renewable Energy Policy*, 32 UTAH ENV'T L. REV. 279, 292 (2012).
138. *Id*. at 291–92.

- **No geographic preferences in 24% of RPS states.** Only seven of the twenty-nine RPS states, or 24%, had no geographic preferences in their laws.[139]

B. THE FEDERAL COURT LEGAL PIVOT TO THE PRESENT

Judge Richard Posner, speaking for a unanimous Seventh Circuit Court of Appeals, in a decision involving one of the most important energy matters of this century, affirmed the Federal Energy Regulatory Commission's approval of the Midwest Independent Service Operator's (MISO's)[140] allocation of Midwest interstate transmission costs related to renewable energy transmission proportionately to all MISO states in the region that used the power.[141] Michigan, one of the twenty-nine RPS states, provided RPS credit REC multipliers only for in-state generation[142] and provided preferences for use of in-state materials for that power generation.[143]

In *dicta,* the decision declared it was an unconstitutional violation of the Commerce Clause for Michigan, or any state, to not provide its Renewable Portfolio Standard RECs to out-of-state commerce in otherwise-eligible renewable energy flowing into the state for sale, because: "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."[144] In the earlier landmark case of *West Lynn Creamery*, Justice Scalia, concurring with the majority opinion, declared "subsidies for in-state industry. . .would clearly be invalid under any formulation of the Court's guiding principle" for "dormant" Commerce Clause cases.[145]

As of the middle of the most recent decade, three federal circuit courts of appeals found that certain states were violating the Commerce Clause in their regulation of electric power:

- The Seventh Circuit Court of Appeals unanimously declared that Michigan's RPS RECs discrimination violated the Dormant Commerce Clause, citing the above article as the relevant authority[146]

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139. *Id*. at 292.

140. MISO's service area extends across 15 U.S. states and the Canadian province of Manitoba, from the Canadian border, east to Michigan and parts of Indiana, south to northern Missouri, and west to eastern areas of Montana. *About Miso*, MISO, https://perma.cc/8NDL-9KR5.

141. Illinois Com. Comm'n v. Federal Energy Regul. Comm'n, 721 F.3d 764, 772–78 (7th Cir. 2013) (MISO allocated the costs of the transmission projects among all of the utilities who draw power from the MISO grid in proportion to each utilities' overall volume of usage).

142. MICH. COMP. LAWS SERV. § 460.1029(1) (LexisNexis 2010).

143. MICH. COMP. LAWS SERV. § 460.1001(2)(a)–(d) (LexisNexis 2010).

144. *Illinois Com. Comm'n*, 721 F.3d at 776.

145. West Lynn Creamery, Inc. v. Healy, 512 U.S. 186, 208 (1994) (Scalia, J., concurring).

146. *Illinois Com. Comm'n*, 721 F.3d at 776 (7th Cir. 2013) (Citing article by Professor Steven Ferrey).

- The Second Circuit Court of Appeals did not contradict the Vermont federal district court finding that Vermont violated the Dormant Commerce Clause when valuing the same electric power from the same zero-carbon generation facility at a different price depending on whether it was sold out-of-state or sold only to Vermont in in-state commerce[147]
- The Eighth Circuit Court of Appeals upheld the district court finding that treating in-state electric power differently than out-of-state electric power to address climate change was a violation of the Dormant Commerce Clause.[148]

These federal court of appeals decisions may have been a factor in changing discriminatory state RPS policies during the last decade: In the last decade, no new states have enacted RPS programs; the number remains unchanged at twenty-nine states. Of the seven of these twenty-nine states that did not discriminate a decade ago, treating electric power identically regardless of its geographic origin, none have since introduced any discriminatory RPS regulation. Several of the twenty-two states, which a decade ago embodied some type of geographic discrimination *de jure* in their RPS program regulations, allowed such discriminatory preferences to lapse or become ineffective.

The next sections apply a Dormant Commerce Clause mirror to state RPS discriminatory changes during the last decade to the present.

III. HOW STATES RESPONDED LEGALLY (OR NOT) TO THEIR GEOGRAPHIC DISCRIMINATION REGARDING RENEWABLE POWER

Part III re-analyzes the twenty-nine states' RPS RECs programs first surveyed regarding Commerce Clause non-compliance a decade ago.[149] Since then, no new states have enacted RPS programs; no states have withdrawn their programs. There is a notable constancy. In section II.A above, this Article reviewed several categories of RPS RECs discrimination present in 2012 in these twenty-nine RPS states. In Part III, this Article re-analyzes each state's program *circa* today to determine how the above-mentioned federal court opinions may have altered state discrimination.

Section III.A examines how and which states structure their legally questionable geographic preferences as part of the RPS RECs programs. Section III.B analyzes the impact of federal court jurisprudence on the RPS states in the last few years regarding geographic discrimination in the energy sector of the economy.

147. Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 733 F.3d 393, 431 (2d Cir. 2013).
148. North Dakota v. Heydinger, 825 F.3d 912, 914 (8th Cir. 2016).
149. Ferrey, *Threading the Constitutional Needle*, *supra* note 100.

A. THE EVOLVING GEOGRAPHICALLY DISCRIMINATORY COMMERCE CLAUSE STRUCTURE OF CERTAIN RPS STATES

1. In-State REC Multipliers

Of the eight states that maintained RPS REC multipliers only for in-state-sited electric generation in 2011, five continue to offer RPS REC multipliers in 2020. This number is a decrease during the last two full presidential administrations of more than one-third of the prior eight states that were discriminating a decade ago. Table 4 comparatively displays these states as of a decade ago and now and analyzes their type and degree of geographic discrimination.

TABLE 4: REC MULTIPLIERS FOR IN-STATE RENEWABLE GENERATION

Eight RPS states have had REC multipliers for in-state generation, with a current decline in those retaining them			
State	Requirement(s) in 2011	Current Requirement(s)	Geographically Discriminatory Categories
Arizona	Multiplier credits are additive but cannot exceed 2.0x. 1.5x multiplier for distributed solar on or before December 31, 2005. ARIZ. ADMIN. CODE § 14-2-1806(G) (2009).	Multipliers are additive and the Extra Credit Multiplier cannot exceed 2.0. ARIZ. ADMIN. CODE §14-2-1806(G) (2017). Eligible Renewable Energy Resources installed after December 31, 2015, shall not be eligible for Extra Credit Multipliers. ARIZ. ADMIN. CODE § 14-2-1806(A). The extra RECs from the multiplier shall be added to the REC, which can be used to meet the utility's annual requirement. ARIZ. ADMIN. CODE § 14-2-1806(B). Utilities receiving RECs from a Solar Electricity Resource installed in Arizona on or before December 31, 2005, shall be eligible for an In-state Power Plant Installation Extra Credit Multiplier by 0.5 annually for life of the facility. In-state Manufacturing Extra Credit Multiplier by multiplying 0.5 times the percent of Arizona content of the total installed plant is also extra credit that may apply.	Arizona no longer geographically discriminates or offers REC multipliers for in-state generation as the time period in the statute has lapsed and has not been extended.

Colorado	For in-state generation, a 1.25x multiplier may be applied but retail distributed generation (customer-sited systems) are excluded. "Community-based" renewable energy projects receive 1.5x multiplier. Electrical transmission or distribution lines installed prior to 2015 for renewable projects up to 30 Mw can receive 2.0x multiplier. Only one multiplier may be used. COLO. REV. STAT. ANN. § 40-2-124 (West 2011).	Each kilowatt-hour of electricity generated at "community-based projects" gets counted as one and one-half kilowatt-hour and may not exceed thirty megawatts. Each kilowatt-hour of renewable electricity generated from solar electric generation technologies shall be counted as three kilowatt-hours. Before December 31, 2014, two kilowatt-hours for the life of the project may apply to rural developments and renewable projects up to 30 Mw. COLO. REV. STAT. ANN. § 40-2-124 (2016).	Colorado also has in-state REC multipliers along with a preference for in-state REC generation.
Delaware	In-state solar cell powered by renewables may receive 3.0x multiplier. Prior to 2013, wind sited in Delaware may receive 1.5x multiplier. DEL. CODE ANN. tit. 26, § 356 (2009).	Retail electricity supplier or municipal electric company whose customer-sited solar photovoltaics are physically located in Delaware or fuel cell powered by renewable fuels installed on or before December 31, 2014, shall receive 300% credit towards meeting the minimum of the renewable energy portfolio standard. They shall also receive 150% credit for wind energy installation sited in Delaware on or before December 31, 2012. An additional 10% credit can be given to retail electricity suppliers if the solar or wind energy installation sites are in Delaware provided at least 50% of the renewable energy equipment is manufactured in Delaware. If 75% of the facility is installed in-state an additional 10% credit shall be earned.	Delaware no longer geographically discriminates or offers REC multipliers for in-state generation as the time period in the statute has lapsed and has not been extended.
Maine	For community-based renewable installations up to 10 Mw,	The value of a Renewable Energy Credit for electricity generated by program participants has a 150%	Maine maintains in-state REC

	1.5x multiplier can be applied. Systems that are 100 Kw or less or "are located in the service territory of a consumer-owned transmission and distribution utility" have 10 Mw reserved. ME. REV. STAT. tit. 35-A, § 3605 (2010).	multiplier of the amount of electricity. The total net generating capacity of participants combined cannot exceed 50 Mw. ME. REV. STAT. tit. §3603(2)(B) (2015). Service date must be after 2009.	multipliers and in-region REC requirements.
Michigan	Renewable energy produced using in-state manufactured equipment and renewable energy produced using systems constructed by in-state workforce will receive 1.1x multiplier for three years after the in-service date of the facility. MICH. COMP. LAWS § 460.1039(2)(d) (West 2011)	One Renewable Energy Credit will be granted for each megawatt-hour of electricity generated from renewable energy system. Renewable Energy Credit of 1/10 for each megawatt-hour of electricity generated from a renewable energy system built using equipment made in Michigan for the first three years after the system produces electricity.	Michigan has in-state REC multipliers (1) and the REC program benefits in-state components and labor (5).
Missouri	For in-state generation, 1.25x credit multiplier may be applied. MO. STAT. ANN. § 393.1030 (1) (2010).	There are portfolio requirements, based on calendar years, that apply to all power sold to Missouri consumers whether it is self-generated or purchased from another source in or outside the state. Each kilowatt-hour of eligible energy generated in Missouri shall count as 1.25 kilowatt-hour. MO. REV. STAT. § 393.1030 (2012).	
Nevada	For customer-sited photovoltaic systems where 50% of generation is used on-site, a 2.4x multiplier may apply. NEV. REV. STAT § 704.7822 (2009).	A provider shall generate 2.4 kilowatt-hours of electricity from renewable energy system for each 1.0 kilowatt-hour of electricity if the system is installed on premises of a retail customer, which was placed into operation on or before December 31, 2015, and generated at least 50% electricity on an annual basis. NEV. REV. STAT. §704.7822 (2013).	Nevada no longer geographically discriminates or offers REC multipliers for in-state generation as the time period in the statute has lapsed and has not been extended.

Washington	For distributed generation facilities less than 5 Mw in size, 2.0x multiplier may be applied. WASH. ADMIN. CODE § 194-37-110 (2008).	Qualifying utility may count distributed generation at double the facility's electrical output if the utility: owns or has contracted for the distributed generation and associated Renewable Energy Credits or has contracted to purchase the Renewable Energy Credits. WASH. REV. CODE §19.285.040 (2012).[150]	Washington has in-state REC multipliers and defines eligible resources as in-region REC generation.

As indicated in Table 4, three states—Arizona, Delaware, and Nevada—have ceased offering RPS REC multipliers for in-state sited electric generation, although as noted in Table 4 and later set forth in Tables 8 and 9, Delaware has retained RPS RECs preferences for use of the subset applied to in-state-purchased solar equipment.[151] Such an abrupt end to these geographic preferences was not the result of any new legislative or regulatory action but was the product of legislative inaction. In all three of these states, the state statutes creating RPS REC multipliers contained expiration dates for new projects, which dates were left unchanged by the legislatures, thus when the REC-multiplier time windows closed for so-benefited new renewable projects to be built, they were expired and were not extended.[152] The lack of any time extensions in these three states' statutes ended the ability to build new renewable projects in-state with a REC multiplier preference. Therefore, 37.5 percent—Arizona, Delaware, and Nevada—of the eight states that a decade ago expressly provided such in-state-only RECs multiplier incentives ended their past geographic discrimination.

Table 5 comparatively displays the laws of five states—Kansas, Maryland, Ohio, Oregon, and Texas—as of a decade ago and those still in place today, to analyze over the last decade the issues of timing of the project and types of renewable technologies enjoying RPS RECs. Of these five states, only Maryland continues to offer constitutionally questionable RPS REC multipliers. Kansas, Ohio, Oregon, and Texas have allowed their time windows for eligible new renewable energy projects to lapse, effectively ending certain geographic in-state RPS discrimination in these states. Therefore, eighty percent of these five states no longer have such in-state discrimination in their REC programs.

150. WASH. REV. CODE §19.285.040 (2012).

151. *See infra* Tables 8, 9.

152. *See* ARIZ. ADMIN. CODE § 14-2-1806(A) (2020) (noting Eligible Renewable Energy Resources installed after December 31, 2015, shall not be eligible for Extra Credit Multipliers); DEL. CODE ANN. tit. 26, § 356(a) (2009) (stating REC credits only available to retail electricity suppliers whose customer sited projects are installed on or before December 31,2014); NEV. REV. STAT. § 704.7822 (2013) (explaining retail customer sites must be placed into operations on or before December 31, 2015).

TABLE 5: RPS RECS MULTIPLIERS BASED ON THE TIME OF THE PROJECT OR TYPE OF RENEWABLE TECHNOLOGY

These states apply multipliers based on the timing of the project or type of renewable technology			
State	Requirement(s) in 2011	Current Requirement(s)	Geographically Discriminatory Categories
Kansas	After January 1, 2000, 1.1x multipliers apply to all eligible renewable technologies. KAN. STAT. ANN. § 66-1258(c) (Supp. 2010).	Orders of the state corporation commission that relate to allowing a utility to recover costs incurred to meet such requirement, and are in effect on June 30, 2015, shall continue to be effective. The commission shall allow utilities to recover reasonable costs incurred as a result of meeting the voluntary 20% goal. KAN. STAT. ANN. § 66-1259.	Kansas no longer geographically discriminates or offers REC multipliers for in-state generation; the time period in the statute has lapsed and has not been extended.
Maryland	Before December 31, 2005, wind energy will receive 1.2x multiplier. Wind energy after December 31, 2005, and before December 31, 2008 receives 1.1x multiplier. MD. CODE ANN., PUB. UTIL. § 7-704(c) (West 2010).	On or after January 1, 2004, electricity suppliers may receive REC and accumulate REC. For wind facilities that are on service on or before December 31, 2005, electricity supplier shall receive 120% credit towards meeting the RPS. Electricity suppliers may receive 110% credit if after December 31, 2005, or on or before December 31, 2008. MD. CODE ANN., PUB. UTIL. § 7-704 (West 2010).	Maryland has retained in-state REC multipliers based on timing and in-region preference.
Ohio	Based on ACP penalty price divided by market REC price determines the multiplier for biomass energy generated. OHIO ADMIN. CODE 4901:1-40-04 (2009).	Facilities within Ohio that committed by December 31, 2009 to modify the facility to generate biomass energy by June 30, 2013, the RECs produced by each megawatt-hour of electricity shall equal the percentage of biomass feedstock heat input used to generate multiplied by the quotient obtained by dividing the unit dollar amount by the market value of one REC. OHIO ADMIN. CODE 4901:1-40-04(E) (2013).	Ohio no longer geographically discriminates or offers REC multipliers for in-state generation as the time period in the statute has lapsed and has not been extended.

Oregon	In-state photovoltaic systems operating between 500 Kw and 5 Mw prior to 2016, will receive 2.0x multiplier. OR. REV. STAT. § 757.375 (2009).	Electric companies shall be credited two kilowatt-hours of electricity for systems operating before January 1, 2016 with nameplate capacity of 500 kilowatts and five megawatts. OR. REV. STAT. § 757.375 (2017).	Oregon no longer geographically discriminates or offers REC multipliers for in-state generation as the time period in the statute has lapsed and has not been extended.
Texas	For non-wind energy facilities installed and certified by the PUCT after September 1, 2005 can receive 2.0x multiple. TEX. UTIL. CODE. ANN. § 39.904(0)(2007).	Renewable energy technology generating installed after September 1, 2005, the commission shall establish a target of having at least 500 megawatts of capacity from a renewable energy technology other than a source using wind energy. TEX. UTIL. CODE. ANN. § 39.904 (2015).	Statute providing multipliers for wind energy not continued after significant wind installed.

Of the thirteen states with some form of in-state REC multipliers embodied in state law represented in Tables 7 and 8, seven states, or more than 50 percent, today have ceased at least one or more elements of their statutory discrimination that was present a decade ago. These thirteen states represent fifty-nine percent of the twenty-two states that had some form of geographic discrimination in their RECs statutes a decade ago. This number alone constitutes a substantial legal change and a retreat from their pre-existing geographic discrimination over the past decade, a trend that has occurred since a 2013 Seventh Circuit opinion issued by Judge Posner identified such state REC discrimination as a violation of the Dormant Commerce Clause of the Constitution.[153]

2. Preference or Indirect Requirements for In-State RPS REC Generation

In 2020, four states maintain the same RPS REC preferences or requirements for in-state-sited renewable electric generation that they also had in 2011. Table 6 comparatively displays these states' statutes as of a decade ago and as of today and analyzes the type and degree of geographic differentiation or discrimination a decade ago and now. Of note, two of these four states also were included in either Table 4 or Table 5 as also having in-state multiplier discrimination. Therefore, of the total number of fifteen states with some form of RPS geographic discrimination included in any of Tables 7, 8, and 9, seven of these fifteen states, or forty-seven percent, have terminated some or all of the geographic

153. Illinois Com. Comm'n v. Federal Energy Regul. Comm'n, 721 F.3d 764, 776 (7th Cir. 2013).

discrimination present during the most recent decade. These seven states are the same states identified above as having their geographically-discriminatory RPS REC statutes change, or allowed to lapse.[154]

TABLE 6: STATE PREFERENCE OR INDIRECT REQUIREMENT FOR IN-STATE GENERATION

Some states have a preference for or requirement for in-state generation			
State	Requirement(s) in 2011	Current Requirement(s)	Geographically Discrimination
California	Tradable RECs disassociated from in-state retail power have RES cap of 25%. 75% must be linked to in-state power sales. Plans are to shrink the cap to 10% by 2017.[155]	From 2010 to December 31, 2013, there is a 25% RPS cap not associated with in-state retail. In-state power must be linked to 75% of power sales.[156]	California continues indirect in-state preference requirements addressed in separate section of article.[157]
Colorado	RECs may only be gained for solar generation located in-state and on-site. COLO. REV. STAT. ANN. § 40-2-124 (e) (II)-(III) (2011).	Specific amount for solar electric generation for in-state and on-site generation. Credit multipliers for community-based projects in the state and eligible projects of in-state retail cooperatives. COLO. REV. STAT. ANN. § 40-2-124 (2016).	Colorado has in-state REC multipliers and a preference for in-state REC generation.
North Carolina	Out-of-state RECs are limited to 25% of total RECs. There is a preference for in-state generation. N.C. GEN. STAT. § 62-133.8 (b)(2)(e) (2009).	RECs may derive from in-state or out-of-state new renewable energy facilities but out-of-state facilities shall not be used to meet more than 25% of the requirement. N.C. GEN. STAT. § 62-133.8 (b)(2)(e)	North Carolina also has in-region REC requirements and preference/requirement for in-state generation.

154. *See supra* text at Tables 4, 5.

155. California Renewable Portfolio Standard, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, https://perma.cc/H3SX-P32V.

156. *Id.*

157. *See infra* section III.A.2.

Ohio	"At least one-half of the renewable energy resources implemented by the utility or company shall be met. . .- with resources that can be shown to be delivered into this state." OHIO REV. CODE ANN. § 4928.64(B)(3) (2010).	Renewable energy resources shall be implemented by utilities through facilities located in Ohio or with resources that were delivered into Ohio. OHIO REV. CODE ANN. § 4928.64(B)(3) (2017).	Ohio has preferences for timing, in-region REC requirements, and has strengthened in-state REC generation requirements.

3. California's Unique Indirect In-State RPS Preference Mechanism

Whereas Massachusetts, as noted above, transitioned to a new indirect wholesale rate subsidy for in-state solar projects that excludes external solar projects, California provides an indirect *de facto* in-state preference for renewable energy, excluding a significant amount of externally produced energy. Despite previously not having an SREC program, in March 2010, the California Public Utilities Commission (CPUC) approved the use of Tradable Renewable Energy Credits (TRECs) in the California Renewable Portfolio Standard program.[158] Under this revised framework, parties are allowed to meet the RPS by purchasing RECs "unbundled" or separated from purchasing the associated renewable energy that creates the REC.[159] Initially, the use of TRECs for RPS compliance was limited to no more than twenty-five percent of a given investor-owned utility's (IOU's) or Electric Service Provider's (ESP's) annual REC obligation.[160] This limit was to decrease to ten percent of the utility's RPS requirement by 2017.[161] Effectively, a limit on purchase or use of TRECs restricts the remaining amount of RECs that utilities must obtain "bundled" with power generated from renewable energy facilities located in or connected to the California utility grid, which predominately are in-state generation sources.

California's RPS program separates all new renewable procurement acquired from contracts after June 1, 2010, into one of three portfolio content categories

158. *See Overview of the California Renewable Portfolio Standard Program*, SRECTRADE, https://perma.cc/5QFA-TBCL.

159. *Id.* The California REC market is tracked by the Western Renewable Energy Generation Information System (WREGIS) and creates WREGIS certificates for every REC generated.

160. *Id.* The initial price cap was set at $50. Both the 25% limitation and $50 price cap were to be lifted at the end of 2013.

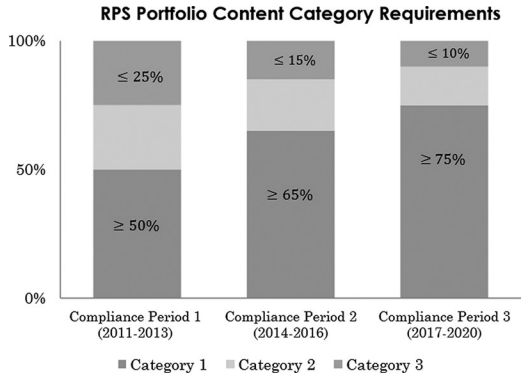
161. *Id.* SBX1-2 (April 2011) capped the use of TRECs at 25% for the compliance period ending December 31, 2013, decreased to 10% of the utility's RPS requirement by 2017.

(PCCs).[162] These PCCs are then separated via minimum percentage procurement requirements. The PCCs minimum percentage procurement requirements are:[163]

- Fifty percent for compliance period one (2011–2013)
- Sixty-five percent for compliance period two (2014–2016)
- Seventy-five percent for compliance period three (2017–2020)

This separation of RPS portfolios is illustrated in Figure 9. Category 1 refers to bundled renewable energy credits (RECs) from facilities with a first point of interconnection within a California Balancing Authority (CBA), or facilities that schedule electricity into a CBA on an hourly or sub-hourly basis. Category 2 refers to procurement which bundles RECs with incremental electricity, and/or substitute energy, from outside a CBA (generally RECs are generated from out-of-state renewable facilities and require a Substitute Energy Agreement that details the simultaneous purchase of energy and RECs from an RPS-eligible facility). Category 3 refers to unbundled RECs that do not include the physical delivery of the energy attached to the REC (generally, RECs are associated with the sale and purchase of the RECs themselves, not the energy).[164]

FIGURE 9[165]



California employed an indirect method of providing increasing percentage REC preferences to in-state renewable power generation. California required a majority of its awarded RECs to be bundled with the sale of electricity produced

162. CAL. PUB. UTIL. CODE § 399.16 (West 2021). *See also* Annual Report, *California Renewables Portfolio Standard*, CALIFORNIA PUBLIC UTILITIES COMMISSION (Nov. 2019), at 60, https://perma.cc/M3SD-W8N6.

163. CAL. PUB. UTIL. CODE § 399.16(c)(1)–(3) (West 2021).

164. CALIFORNIA PUBLIC UTILITIES COMMISSION, *California Renewables Portfolio Standard*, (November 2019), at 59–60 https://perma.cc/M3SD-W8N6.

165. *Id.* at 60 (noting that these 2020 percentages remain in place indefinitely).

by renewable resources in or connected to in-state transmission, thus disadvantaging renewable generation sited out-of-state.[166] More specifically, California's policy in 2011, at the time the prior survey a decade ago of state RPS RECs was conducted, allowed tradable credits from the Western Renewable Energy Generation Information System (without being attached to in-state generation in California) to constitute a small portion of total California utility acquisition of required state RPS RECs. The CPUC restricted use of these tradable RECs to no more than five percent of total renewable procurement on an annual basis from 2009 to 2011, and in 2010, the limit was raised to twenty-five percent for tradable RECs that were not bundled with the electric power.[167] This program requires the significant majority of usable RECs to be created by in-state renewable energy generation.[168] These in-state bundled REC requirements (Category 1) have increased over time in California, while the allowed amount of out-of-state unbundled RECs allowed by law in California have commensurately decreased.

Unlike other states that have ended in-state preferences, California appears to have made indirect in-state preferences play a greater role in its RPS program. California has done so by still requiring a substantial increasing percentage of RECs purchased by its in-state utilities to be created by renewable energy projects that are connected to a California Balancing Authority (CBA).[169] Thus this program had led to the credible argument, and critique, that such portfolio balancing requirements indicate clear legislative preference for bundled in-state-connected renewable energy generation by increasing the minimum RPS in-state-connected compliance percentage to seventy-five percent.[170]

Such requirements operate to accomplish an indirect way of discriminating against out-of-state renewable power generation. A REC subsidy cannot be monetized by any renewable energy developer and realized unless it is purchased by a California utility within the allowed time period created by California law for its vintage of creation (each year of power generation is accorded a different vintage, or year of creation, which is attached to RECs). Certain other earlier pre-2010 RPS REC-creating entities are "grandfathered" into the current California

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166. The California Public Utilities Commission staff recognizes that this program could invoke constitutional problems. *See* CALIFORNIA PUBLIC UTILITIES COMMISSION, DIVISION OF STRATEGIC PLANNING, *Renewable Energy Certificates and the California Renewables Portfolio Standard Program*, April 20, 2006 at 90–91.

167. Cal. Pub. Util. Comm'n, 10-03-021, Order Instituting Rulemaking to Develop Additional Methods to Implement the California RPS Program (Mar. 11, 2010).

168. Four states, Alabama, Texas, Nebraska and North Dakota, then stated that they were planning to bring suit against California's program as interfering with interstate commerce and the Commerce Clause. Michael N. Mills, *Will California's 33% Renewable Portfolio Standard Survive a Commerce Clause Challenge by Other States? A Recently Filed Colorado Case May Provide the Answer*, Stoel Rives LLP (May 26, 2011), https://perma.cc/G2HF-THTR.

169. CAL. PUB. UTIL. CODE § 399.16 (West 2021).

170. Nilmini Silva-Send, *Are All RPS Compliance and RECs Created Equal?* The EPIC Energy Blog (July 11, 2017), https://perma.cc/9F7A-33QZ.

system by counting their RECs as qualified to be counted to satisfy any current percentage requirement.[171]

Thus, if California utilities can only purchase a certain decreasing percentage and number of RECs from out-of-state connected sources—as is the case under California's current RPS RECs program—simple supply and demand will drive down the price offered for such external unusable and increasingly surplus RECs. This drive-down occurs by treating this renewable power coming interstate into California and actually being consumed in California, as being attached to a distinct class of REC categories that are increasingly unusable or monetizable as part of that power sale at wholesale in interstate commerce to California utilities. While not explicitly banning out-of-state RECs, California law for RECs-purchasing regulated monopoly California utilities, whose operations are subject to regulation by the CPUC, increasingly restricts utility demand or use for them. This demand indirectly adds financial value to renewable power and subsidizes in-state renewable power, *de facto* limiting, diminishing the value of, and excluding out-of-state eligible renewable power transmitted interstate to California utilities by limiting demand for them by those regulated California monopoly utilities. As noted by one commenter:

> "The portfolio balancing requirements [PBRs] show a clear legislative preference for bundled in-state renewable energy generation by increasing the minimum amount required for RPS compliance to 75%. In the converse, the phasing out of PCC 3 unbundled RECs to 10% shows an aversion to this type of compliance mechanism. The PBRs have the general effect of increasing the amount of in state renewable energy generation and decreasing the use of unbundled RECs in RPS compliance."[172]

4. In-Region REC Requirements

Eleven states in 2021 maintain RPS RECs in-region geographic location of renewable generation requirements to satisfy state RPS requirements. This number was the same and involved the same states doing so a decade ago. Table 7 comparatively displays these states' legal requirements as of a decade ago and as of today and analyzes the type and degree of geographic differentiation or discrimination. By engaging in regional discrimination, which engages multiple states, rather than state discrimination, violation of the Dormant Commerce Clause becomes less transparent. Electricity can move in interstate commerce in a fraction of a second from anywhere in the continental U.S. to another place in the continental U.S.[173] (with the possible exception of Texas).[174] Of note, there

171. *Id.*
172. *Id.*
173. For the federal court statement on this, *see, infra*..
174. 2019 RPS STATUS REPORT, *supra* note 18.

are independent system operators (ISOs) serving some geographic areas of the U.S. that manage wholesale power flows and power transmission in a regional section of the country.[175] More than half of the country's consumers—sixty percent—are served by such ISOs and RTOs.[176]

TABLE 7: GEOGRAPHIC RPS REC DISCRIMINATION A DECADE AGO AND TODAY

Renewable Portfolio Standard states have in-region geographic location of generation to create RECs			
State	Requirement(s) in 2011	Current Requirement(s)	Geographically Discriminate Categories
Connecticut	Connecticut will recognize RPS credits from other states in the six-state NEPOOL system until 2010, and thereafter also will recognize credits from New York, Pennsylvania, New Jersey, Maryland, or Delaware if it is determined by Connecticut at that time that their RPS program standards are similar to those of Connecticut. CONN. GEN. STAT. ANN. § 16-245a(b) (2007).	Renewable Portfolio Standards credits from states that are members of the New England Power Pool (NEPOOL) or its successors are recognized. CONN. GEN. STAT. ANN. § 16-245a(b) (2007).	Six state regional credits usable from six New England state regions.
Illinois	Prior to June 1, 2011, resources shall be produced from facilities located in Illinois. Resources not available in Illinois shall be procured in states adjoining Illinois. If resources are not available in Illinois or in adjoining states, resources can be purchased elsewhere. Beginning June 1, 2011, resources shall be from	Resources must be produced from facilities located in Illinois or states that adjoin Illinois. Resources may be procured elsewhere if resources are not available in Illinois or in adjoin states. 20 ILL. COMP. STAT. ANN. § 3855/1-56(b) (2011).	Requires in-state REC credits unless not available in-state.

175. *See* STEVEN FERREY, THE LAW OF INDEPENDENT POWER, sections 10:106, 10:110 (2018)..

176. U.S. ENERGY INFORMATION ADMINISTRATION, *About 60% of the U.S. electric power supply is managed by RTOs* (Apr. 4, 2011), https://perma.cc/CZR2-RKP4.

	facilities in Illinois or states adjoined, if resources are not available, they can be procured elsewhere. 20 ILL. COMP. STAT. ANN. § 3855/1-56(b) (2011).		
Maine	Energy must be physically delivered to the Northern Maine Independent System Administrator (NMISA) area to satisfy the portfolio requirements. Energy physically delivered satisfies the ISO-NE and NMISA. 65-407-311 ME. CODE R. § (2011).	Energy must be physically delivered to the ISO-NE control area or physically delivered to the NMISA area. 65-407-311 ME. CODE R.§ (2011).	Maine has in-state REC multipliers along with only recognizing 6 state regional credits usable from the 6 New England state region or delivered into northern Maine.
Maryland	As long as electricity is generated within the PJM region or in a state adjacent to the PJM area, suppliers can require recognition of a non-Maryland REC from generation that was not delivered into the PJM region. MD. CODE REGS. 20.61.03 (2011).	A supplier may request recognition of a renewable source's REC that is not delivered into the PJM region if there is certification by the operation of the control area, or certification of the number of megawatt-hours generated at the facility in the specific year, and the electricity is generated within the PJM Region or in an adjacent state to the PJM control area. MD. CODE REGS. 20.61.03.03 (2016).	Maryland has in-state REC multipliers based on timing and a PJM ISO in-region preference.
Massachusetts	Requires that generation be brought into the ISO-NE six-state area on a real-time basis. MASS. GEN. LAWS ANN., ch. 25A § 11F (West 2010).	If the output is independently verified as a NEPOOL participant, then the renewable energy source may be located within ISO-NE control area. MASS. GEN. LAWS ANN., ch. 25A § 11F.	Six state regional credits usable from six New England state regions.
New Hampshire	"[S]hall utilize the regional generation information system (GIS) of energy certificates administered by ISO- New England and the New England Power	ISO-New England and the New England Power Pool (NEPOOL), or their successors shall receive the energy certificates from utilize in regional	Six state regional credits usable from six New England state regions.

	Pool (NEPOOL) of their successors." N.H. REV. STAT. ANN. § 362-F:6 (2009).	generation information system (GIS). N.H. REV. STAT. ANN.§ 362-F:6 (2015).	
North Carolina	Power delivered to a public utility that provides electricity to North Carolina customers, may satisfy the RPS. Purchase of RECs from out-of-state or in-state new renewable energy facilities may also satisfy RPS. Out-of-state purchased RECs can only account for 25% of the requirements. N.C. GEN. STAT. § 62-133.8 (b)(2)(d) (2009).	If the electric power is delivered to a public utility that provides power to North Carolina customers, and purchased with RECs from out-of-state, it cannot exceed more than 25% of the requirements. N.C. GEN. STAT. § 62-133.8 (b)(2)(d)–(e) (2009).	North Carolina has preferences for in-state REC generation along with the in-region REC requirement from utilities that deliver power to the state.
Ohio	"Commission shall consider the availability of renewable energy or solar energy resources in this state and other jurisdictions in the PJM interconnection regional transmission organization or its successor and the Midwest system operator or its successor." OHIO REV. CODE ANN. § 4928.64 (c)(4)(b) (West 2010).	The commission shall consider whether the electric distribution has made a good faith effort to gain qualified renewable energy, solar energy resources, from Ohio and in the PJM interconnection organization. OHIO REV. CODE ANN. § 4928.64(c)(4)(b) (2017).	Ohio has in-region REC requirements.
Oregon	"… qualifying electricity for which the certificate is issued must be delivered to the Bonneville Power Administration, to the transmission system of an electric utility, or to another delivery point designated by an electric utility for purposes of subsequent delivery to the electric utility." OR. REV. STAT. § 469A.135(1)(b) (2009).	The qualified electricity must be delivered to the Bonneville Power Administration, electric utility's transmission system, or a delivery point designated by the electric utility… OR. REV. STAT. § 469A.135(1)(b) (2017).	Oregon has in-state a requirement for in-region REC requirements from BPA, which is a federal marketing agency serving only the Pacific Northwest of the U.S..

Pennsylvania	"…. Alternative energy sources located in the PJM Interconnection or successor service territory shall be eligible to fulfill compliance obligations of all Pennsylvania electric distribution suppliers. Energy derived from alternative energy sources located outside the service territory . . . shall not be eligible to meet the compliance requirements of this act." 73 PA. CONS. STAT. ANN. § 1648.4 (West 2008).	Energy sources in the PJM Interconnection region are eligible to comply with Pennsylvania's electric distributors. Energy located outside the service territory of the PJM region are not eligible to meet the compliance requirements. 73 PA. CONS. STAT. ANN. § 1648.4 (West 2008).	Regional requirement that RECs from renewable generation sources located in the thirteen states and District of Columbia that are members of PJM ISO.
Rhode Island	". . . compliance with the renewable energy standard may be demonstrated through procurement of NE-GIS certificates . . . Procurement of NE-GIS certificates from off-grid and customer-sited generation facilities, if located in Rhode Island and verified by the commission. . ." may be used for compliance. R.I. GEN. LAWS § 39-26-4 (2006). "A generation unit located in an adjacent control area outside the NEPOOL may qualify as an eligible renewable energy source, but the associated generation attributes shall be applied to the renewable energy standard only to the extent the energy produced by the generation unit was actually delivered in to NEPOOL for consumption by New England customers. . ." *Id*. at § 39-26-5 (b).	Rhode Island off-grid and customer-sited generation facilities are eligible renewable energy sources. Generation units located in or adjacent to NEPOOL may qualify as eligible renewable energy resources if the energy is used by New England customers. R.I. GEN. LAWS § 39-26-4 (2016).	Six state regional credits usable from six New England state regions.

In-region discrimination regarding electric power is not in-state discrimination. A state discriminating against another state's commerce is the most common form of state law discrimination enacted or enabled at the state level, and therefore makes up the majority of cases brought before courts as reflected in their precedent.[177] However, in-state discrimination does not exhaust the category of impermissible Dormant Commerce Clause discrimination. The Dormant Commerce Clause prohibits any geographic discrimination in commerce, whether or not it is established at the state political boundaries.[178]

Placing this state discrimination in context, the eleven states that had regional discrimination in their RPS statutes a decade ago, still maintain that geographic discrimination. In most cases, this discrimination requires that power generation eligible to earn RPS RECs must originate from the regional ISO states in which the states' retail utilities, which must purchase the RECs created, participate in wholesale market transactions.[179] Five of these eleven states are the five RPS states of the six states in ISO-New England that have RPS programs (excluding Vermont) and recognize RECs from renewable power generation in the other New England states participating in ISO-NE.[180] None of these states has terminated such regional RECs provisions in their state RPS laws over the last decade.[181] In contrast, for states that had different forms of strictly in-state, as opposed to in-region, RPS preferences a decade ago, thirty-eight to fifty percent of those states terminated or allowed to lapse those discriminatory geographic preferences during the most recent decade.[182]

Placing this state discrimination in an even broader context, of the eleven states with some form of regional RPS discrimination decade ago and still ongoing now,[183] five of those eleven states also were included in Table 4 or Table 5 for also having laws that impose in-state RPS REC discrimination; thus, those states included multiple types of layers of geographic discrimination in their RPS REC programs a decade ago.[184] Two of those five states with regional discrimination listed in both Tables 4 or 5 and Table 7, Ohio and Oregon,[185] have terminated their in-state RPS RECs commerce discrimination yet continued their in-region discrimination.

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177. *See* STEVEN FERREY, ENVIRONMENTAL LAW: EXAMPLES & EXPLANATIONS, 168–74 (8th ed. 2019).

178. Northeast Bancorp, Inc. v Bd. of Governors of Fed. Reserve Sys., 472 U.S. 159, 174 (1985) (citing Lewis v. BT Inv. Managers, Inc., 447 U.S. 27, 39–44 (1980); Sporhase v. Nebraska ex rel. Douglas, 458 U.S. 941 (1982)).

179. *See supra* Table 7.

180. *See* ISO New England, https://perma.cc/5V87-GKMN (last visited Sep. 1, 2021).

181. *See supra* Table 7.

182. *See supra* Tables 4–6.

183. *See supra* Table 7.

184. *See supra* Tables 4, 5.

185. *See supra* Tables 5, 6, 7 (Ohio and Oregon RPS changes in the prior decade).

5. Defining Eligible Resources as In-State or In-Region REC Generation

Five additional states in 2021 maintain in-region or in-state RPS REC geographic location of generation discrimination to earn and be awarded eligible RPS RECs. This number is the same number of states as did so a decade ago in 2011. Table 8 comparatively displays the legal status in these states as of a decade ago and today, analyzing the type and degree of geographic differentiation or discrimination.

TABLE 8: IN-REGION OR IN-STATE GEOGRAPHIC LOCATION

Eligible qualifications based on in-region or in-state geographic location.			
State	Requirement(s) in 2011	Current Requirement(s)	Geographically Discrimination
California	"'Eligible Renewable Energy Resource' means an electric generating facility… that meets the definition of an 'in-state renewable electricity generation facility.'" CAL. PUB. UTIL. CODE § 399.12(c) (West 2004).	The eligible renewable energy resources are designed to benefit California… Meeting California's need for a diversified and balanced energy generation portfolio… The commission shall adopt policies that promote in-state production and distribution… CAL. PUB. UTIL. CODE § 399.11 (2013).	California has defined eligible resources as in-state REC generation along with preferring a minimum percentage of in-state REC generation.[186]
Delaware	"'Eligible energy resources' include… energy sources located within or imported into the PJM region." DEL. CODE ANN. tit. 26, § 352(6).	Energy sources located within or imported into the PJM region are "eligible energy resources. " DEL. CODE ANN. tit. 26, § 352 (6).	Delaware has in-state equipment REC multipliers
Montana	"'Eligible renewable resource' means a facility either located within Montana or delivering electricity from another state into Montana…" MONT. CODE ANN. § 69-3-2003 (10) (2011).	Montana facilities or delivered electricity from another state into Montana after January 1, 2005 is an eligible renewable resource. MONT. CODE ANN. § 69-3-2003(10) (2017).	Montana has defined eligible resources as in-state facility REC generation and RECs associated with power imported into Montana.

186. *See supra* section III.A.3.

New Jersey	"To qualify as class I or class II renewable energy, energy shall be generated within or delivered into the PJM region… Energy generated outside the PJM region shall be considered delivered into the PJM region if it has been added to the PJM region through dynamic scheduling go of the output of load inside the PJM region…" N.J. ADMIN. CODE § 14:8-2.7(b) (2009).	Energy shall be generated within or delivered into the PJM region. Energy delivered into the PJM region must have been generated at a facility starting January 1, 2003. N.J. ADMIN. CODE § 14:8-2.7(b) (2017).	In-region requirement for RPS RECs.
Washington	Renewable energy resource means that the facility is in the Pacific Northwest and the electricity is being delivered into Washington. . . without shaping, storage, or integration services. . . WASH. ADMIN. CODE 194-37-040 (13)(a) (2008).	Electricity facility located in the Pacific Northeast or electricity that is delivered into Washington on a real-time basis with no integration services. WASH. ADMIN. CODE 194-37-040 (13)(a)(i)-(ii) (2008).	Washington has in-state REC multipliers and defined eligible RPS resources as in-region REC generation.

6. RPS REC Benefits for In-State Components and Labor

Three states in 2021 maintain RPS REC in-state workers or in-state manufactured components and geographic requirements for the creation of additional RPS RECs. A decade ago in 2011, there were four such states. However, Arizona has not extended its state statute indicating a preference or requirement for "In-state Power Plant Installation, Manufacturing, and Installation Content Extra Credit Multiplier's."[187] Table 9 comparatively displays these states as of a decade ago and today and analyzes their type and degree of geographic differentiation or discrimination.

187. ARIZ. ADMIN. CODE §14-2-1806 (D)–(E) (2017).

TABLE 9: RPS RECS PREFERENCES FOR IN-STATE WORKERS OR MANUFACTURED COMPONENTS

Preferences for RECs created at power generation units that employ in-state workers or manufactured components			
State	Requirement(s) in 2011	Current Requirement(s)	Geographic Discrimination
Arizona	Multiplier for in-state manufacturing and installation content for specific technology installed on or before December 31, 2005; the exact amount is to be determined by percentage of in-state content. ARIZ. ADMIN. CODE §14-2-1806 (D)-(E) (2007).	In-state Power Plant Installation, Manufacturing, and Installation Content Extra Credit Multiplier shall be awarded to Electricity Resources that were installed on or before December 31, 2005, in Arizona. ARIZ. ADMIN. CODE §14-2-1806 (D)-(E) (2017).	Arizona no longer geographically discriminates geographically.
Delaware	For in-state solar and wind installations 1.1x multiplier may be applied if constructed using at least 50% Delaware-sourced equipment/components or at least 75% Delaware workforce. DEL. CODE ANN. tit. 26, § 356(d)(e) (Supp. 2010).	For solar and wind energy installations sited in Delaware, retail electricity suppliers shall receive an additional 10% credit towards meeting the RPS as long as 50% of the renewable energy equipment was manufactured in Delaware. If a minimum of 75% of the workforce is in-state than an additional 10% credit will be given to the electricity supplier. DEL. CODE ANN. tit. 26, § 356(d)(e) (2010).	Delaware has additional RPS REC benefits for in-state work components or in-state equipment used.
Michigan	Renewable energy produced using in-state manufactured equipment and renewable energy using a system constructed using in-state work forth may receive 1.1x multiplier; which is available for three years after the in-service date of the facility. MICH. COMP. LAWS ANN. § 460.1039(2)(d) (West Supp. 2011).	For each megawatt hour of electricity generated using equipment made in Michigan shall receive 1/10 Renewable Energy Credit for the first three years after commission. MICH. COMP. LAWS ANN. § 460.1039 (2016).	Michigan has retained an in-state REC multiplier and REC benefits for in-state components and labor.

Montana	"[M]ust require all contractors to give preference to the employment of bona fide Montana Residents. . . in the performance of the work of the projects. . ." MONT. CODE ANN. § 69-3-2005(3)(a) (2009).	For projects located in Montana, contracts signed require all contractors to give preference to the employment of a genuine Montana resident. . . MONT. CODE ANN. § 69-3-2005(3)(a) (2017).	Montana has defined eligible resources as in-state facility REC generation and RECs associated with power imported into Montana, as well as a preference for in-state labor.

B. HOW STATES STRUCTURE THEIR RPS GEOGRAPHIC PREFERENCES

Below, this Article analyzes the composite geographic preferences that still are maintained now in several states' RPS programs, cross-referenced to the statutes cited in the Tables above. Seven states have allowed their in-state REC multipliers from a decade ago to lapse in time. Two of those states, Ohio and Oregon,[188] have terminated their in-state RPS RECs discrimination but continued their in-region renewable energy discrimination.

1. States Which No Longer Maintain or Ceased Geographic RPS REC Preferences

In the last decade, seven of the twenty-two states that provided geographic preferences in their RPS programs a decade ago have ended geographic preferences and no longer offer REC multipliers to new projects. By declining to extend or amend their state statues, the following states have ended their in-state REC multiplier programs: Arizona, Kansas, Nevada, Ohio, and Oregon.[189] However, even though not maintaining a previous multiplier for in-state RECs, Ohio does maintain a regional geographic preference for participating RPS REC projects. Ohio's approach illustrates a state that allowed one in-state preference in its renewable energy laws to lapse while not ending another in-state preference.[190] Although it is significant that one-third of the twenty-two states with some form of geographic discrimination a decade ago have allowed such elements to lapse, now raising to fourteen of the twenty-nine RPS states that no longer discriminate in their treatment of renewable energy. California also had no direct geographic preference, although as set forth in detail above, California implements an indirect geographic preference.[191]

188. *See supra* Tables 4, 5, 7 (Ohio and Oregon RPS changes in the prior decade).

189. *See supra* Tables 4, 5.

190. Ohio Rev. Code Ann. § 4928.64(B)(3) (West 2021) (demonstrating in-state geographic preferences for renewable generation RPS credits).

191. *See supra* at section III.C.3.iii.

2. States Which Continue to Include Geographic Preferences

Even with almost half of the twenty-nine RPS states now not discriminating either at all or at least to the degree they were a decade ago, history still is repeating itself with a majority of the twenty-nine RPS states still a decade later maintaining some form of potential geographic discrimination regarding renewable energy. Of note in those states below, Michigan is still doing so despite being the subject of the unanimous Seventh Circuit admonition that its in-state RPS program violated the Dormant Commerce Clause.[192] However, because the Seventh Circuit case concerned issues much larger than Michigan's RPS program, this admonition was *dicta,* and Michigan chose to ignore the court and not change its program. Below, each of the states' programs is highlighted where history repeats itself regarding power discrimination.

California

The RPS program in California has maintained an indirect requirement for in-state REC generation bundled with in-state-connected power generation, as analyzed in detail above.[193] Meeting California's need for a diversified and balanced energy generation portfolio, the state commission adopted policies that promote in-state production and distribution.[194] Although phrasing may be slightly more detailed, the standard now is the same as it was a decade ago in 2011.[195]

Colorado

The current Colorado statute indicates that a project only qualifies for the REC multiplier if it was in place prior to January 1, 2015.[196] The credit multipliers for any in-state power only apply to projects completed at a prior date so it is no longer applicable for new projects.[197] Colorado previously had credit multipliers for:[198]

- Each kilowatt-hour of renewable electricity generated from in-state solar electric generation technologies would count, for REC purposes, as three kilowatt-hours[199]

192. Illinois Com. Comm'n. v. Fed. Energy Reg. Comm'n., 721 F.3d 764, 776 (7th Cir. 2013) ("Michigan cannot, without violating the commerce clause of Article I of the Constitution, discriminate against out-of-state renewable energy.").

193. *See supra* at section III.A.3.

194. CAL. PUB. UTIL. CODE § 399.11 (2013).

195. CAL. PUB. UTIL. CODE § 399.12(c) (West 2004).

196. COLO. REV. STAT. ANN. § 40-2-124 (c)(III) (2019) ("Each kilowatt-hour of electricity generated from eligible energy resources, other than retail distributed generation and other than eligible energy resources beginning operation on or after January 1, 2015, counts as one and one-fourth kilowatt-hours for the purposes of compliance with this standard.").

197. *Id.*

198. *Id.* § 40-2-124 (c).

199. *Id.* § 40-2-124 (c)(VII)(A) ("For purposes of compliance with the standards set forth in subparagraphs (V) and (V.5) of this paragraph (c), each kilowatt-hour of renewable electricity generated from solar electric generation technologies shall be counted as three kilowatt-hours.").

- To stimulate the rural development and projects, up to thirty megawatts interconnected to electric transmission or distribution facilities may be counted as two kilowatt-hours for the life of the project.[200]

Currently, Colorado provides that for solar electric technology that is not under contract for development prior to August 1, 2015, and produces electricity on or after December 31, 2016, each kilowatt-hour of eligible renewable energy shall be counted as one kilowatt-hour.[201]

However, the statue provides that each kilowatt-hour of electricity generated by "community-based projects" will be counted as one- and- one-half kilowatt-hours for REC award purposes and may not exceed thirty megawatts in size of the facility.[202] These community-based projects although not expressly identified as in-state facilities, are defined as those facilities subject to Colorado's definition, which leaves them open to in-state definitions.

Connecticut

Connecticut has a preference for in-region REC requirements. Connecticut recognizes Renewable Portfolio Standards credits from states that are members of the New England Power Pool (NEPOOL) or its successors.[203] This standard is the same one that was in place a decade ago.

Delaware

Delaware may give an additional ten percent REC credit to retail electricity suppliers if the solar or wind energy installation sites are in Delaware and at least fifty percent of the renewable energy equipment was manufactured in Delaware.[204] Delaware also recognizes in-state labor and components in calculating REC benefits. If at least seventy-five percent of the workforce is located in-

200. *Id*. § 40-2-124 (c)(IX) ("For purposes of stimulating rural economic development and for projects up to thirty megawatts of nameplate capacity that have a point of interconnection rated at sixty-nine kilovolts or less, each kilowatt hour of electricity generated from renewable energy resources that interconnects to electric transmission or distribution facilities owned by a cooperative electric association or municipally owned utility may be counted for the life of the project as two kilowatt hours for compliance with the requirements of this paragraph (c) by qualifying retail utilities. This multiplier shall not be claimed for interconnections that first occur after December 31, 2014 and shall not be used in conjunction with another compliance multiplier.").

201. *Id* § 40-2-124 (c)(VII)(C) ("For each qualifying retail utility that is a municipally owned utility, subparagraph (A) of this subparagraph (VII) applies only to solar electric technologies that are under contract for development prior to August 1, 2015, and begin producing electricity prior to December 31, 2016, and for solar electric technologies that are not under contract for development prior to August 1, 2015, and begin producing electricity on or after December 31, 2016, each kilowatt-hour of renewable electricity shall be counted as one kilowatt-hour for purposes of compliance with the renewable energy standard.").

202. *Id* § 40-2-124 (c)(VI)(2019) ("Each kilowatt-hour of electricity generated from eligible energy resources at a community-based project must be counted as one and one-half kilowatt-hours.").

203. CONN. GEN. STAT. ANN. § 16-245a(b).

204. DEL. CODE ANN. tit. 26, § 356(d)–(e) (2010).

state, then an additional ten percent REC credit will also be given to the electricity supplier.[205]

Illinois

Illinois requires in-region RPS RECs. Resources must be produced by facilities located in Illinois or states that adjoin Illinois.[206] RPS resources may be procured elsewhere by retailers of power in Illinois only if REC resources are not available in Illinois or in adjoining states.[207] This standard is the same one reported by the 2011 statute.[208]

Maine

Maine has maintained an in-state REC multiplier, with the current law providing a Renewable Energy Credit with a one-hundred-and-fifty percent multiplier of the amount of electricity.[209] The total net generating capacity of participants combined cannot exceed fifty megawatts.[210] Maine only recognizes in-region generation for its REC requirements. Energy must be physically delivered to the ISO-NE control area or physically delivered to the NMISA area.[211] This requirement continues the same prevision that was incorporated a decade ago in the 2011 version of the Maine Code.[212]

Maryland

Maryland maintains in-state REC multipliers and an in-region preference.[213] For Maryland's in-region REC requirements, a supplier may request recognition of a renewable source's REC that is not delivered into the PJM region if there is certification by the operator of the control area, or certification of the number of megawatt-hours generated at the facility in the specific year, and the electricity is generated within the PJM Region or in an adjacent state to the PJM control area.[214]

Massachusetts

Massachusetts also maintains an RPS in-region REC requirement, recognizing RECs from renewable energy sources located within the six-state ISO-NE control

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205. *Id.*

206. 220 ILL. COMP. STAT. ANN. 5/16-115D.

207. DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (2018), https://perma.cc/6EXL-THY9.

208. Ferrey, *Threading the Constitutional Needle*, *supra* note 100.

209. ME. REV. STAT. tit. 35-A, § 3605.

210. ME. REV. STAT. tit. 35-A, § 3603.

211. 65-407-311 ME. CODE R. § (2011).

212. Ferrey, *Threading the Constitutional Needle*, *supra* note 100.

213. Md. CODE ANN., Pub. Util. Cos. § 7-704 (c). For earlier projects, for wind facilities that are in service on or before December 31, 2005, electricity suppliers shall receive elevated 120% credit towards meeting the RPS. Electricity suppliers may receive 110% credit value if after December 31, 2005, they do so generate or on or before December 31, 2008. *Id.*

214. MD. CODE REGS. 20.61.03.03 (2016).

region or whose electricity output is independently verified as a NEPOOL participant.[215]

Michigan

Michigan, the subject of Judge Posner's and the Seventh Circuit's declaration on the illegality under the Dormant Commerce Clause of subsidizing in-state-generated renewable power but not renewable power imported into the state,[216] has continued its discriminatory program. Michigan has in-state REC multipliers and a RECs program that benefits in-state components and labor. It grants one Renewable Energy Credit for each megawatt-hour of electricity generated from an eligible renewable energy system. The state grants ten percent additional RECs, added for the first three years after the system produces electricity, for each megawatt-hour of electricity generated from a renewable energy system built using equipment made in Michigan.[217]

Missouri

Each kilowatt-hour of eligible renewable energy generated in Missouri counts as 1.25 kilowatt-hours.[218]

Montana

For a decade, Montana has defined eligible RPS resources as in-state REC generation, including power delivered from another state into Montana. It provides additional REC subsidies for the use of in-state components and labor for the generation project.[219]

New Hampshire

New Hampshire also maintains its in-region RPS REC requirements from a decade ago. These requirements recognize RECs from ISO-New England and participants in the New England Power Pool (NEPOOL). Credits are recorded in the NEPOOL regional Generation Information System (GIS).[220]

New Jersey

New Jersey continues to require in-region REC generation for RPS eligibility. Specifically, it requires that the energy be generated within New Jersey or delivered into the PJM region to qualify as Class I or Class II RECs. [221] For energy delivered into the PJM region, the facility must have been in operation on or after January 1, 2003.[222]

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215. MASS. GEN. LAWS ANN. ch. 25A, § 11F.

216. Illinois Com. Comm'n v. Fed. Energy Regul. Comm'n, 721 F.3d 776 (7th Cir. 2013).

217. MICH. COMP. LAWS ANN. § 460.1039 (2)(d) (2017). This three-year time-period standard is both the 2011 and the current code.

218. MO. ANN. STAT. § 393.1030 (2012).

219. MONT. CODE ANN. § 69-3-2003(10)(2017), § 69-3-2005(3)(a) (2017).

220. N.H. REV. STAT. ANN. § 362-F:6 (2015).

221. N.J. ADMIN. CODE § 14:8-2.7(b)(2017).

222. *Id.*

North Carolina

North Carolina over the prior decade has maintained preferences for in-state REC generation and its in-region REC requirement.[223] North Carolina statute provides that in-state and out-of-state power may be purchased, however, the out-of-state electric power needs to be delivered to a public utility that provides power to North Carolina customers. In addition, purchased RECs generated out-of-state cannot exceed more than twenty-five percent of utility compliance with the RPS RECs requirements.[224]

Ohio

As of 2019, Ohio maintains its prior preference for in-state REC generation with no change on this standard over the prior decade in its law.[225] Renewable energy resources must have been implemented by "facilities located in this state or with resources that can be shown to be deliverable into this state."[226] A previous provision providing multipliers for biomass power was allowed to sunset at a previous 2013 date.[227]

Texas

For renewable energy technology generation installed after September 1, 2005, Texas has provided a two times credit multiplier in both the 2007 version and 2015 version of its code.[228]

Pennsylvania

Pennsylvania's in-region REC requirements recognize RECs produced by generation from energy sources in the PJM ISO.[229] Energy sources located outside the PJM ISO are not eligible to satisfy the state's compliance requirements, even

223. N.C. GEN. STAT. ANN. § 62-133.8.

224. *Id*.

225. OHIO REV. CODE ANN. § 4928.64 (B)(3) (2017).

226. *Id*.

227. OHIO ADMIN. CODE 4901:1-40-04 (E) (2013). Section 4928.645 created in-state preference for certain projects prior to June, 30, 2013: "The public utilities commission shall adopt rules specifying that one unit of credit shall equal one megawatt hour of electricity derived from renewable energy resources, except that, for a generating facility of seventy-five megawatts or greater that is situated within this state and has committed by December 31, 2009, to modify or retrofit its generating unit or units to enable the facility to generate principally from biomass energy by June 30, 2013, each megawatt hour of electricity generated principally from that biomass energy shall equal, in units of credit, the product obtained by multiplying the actual percentage of biomass feedstock heat input used to generate such megawatt hour by the quotient obtained by dividing the then existing unit dollar amount used to determine a renewable energy compliance payment as provided under division (C)(2)(b) of section 4928.64 of the Revised Code by the then existing market value of one renewable energy credit, but such megawatt hour shall not equal less than one unit of credit. Renewable energy resources do not have to be converted to electricity in order to be eligible to receive renewable energy credits. The rules shall specify that, for purposes of converting the quantity of energy derived from biologically derived methane gas to an electricity equivalent, one megawatt hour equals 3,412,142 British thermal units." (emphasis added).

228. TEX. UTIL. CODE ANN. § 39.904 (2007).

229. 73 PA. CONS. STAT. ANN. § 1648.4 (West 2008).

if that power is exported into PJM or Pennsylvania.[230] These requirements have remained the same since 2008.[231]

Rhode Island

Rhode Island maintains in-region REC requirements for RECs from the six ISO-NE/NEPOOL states, recorded through the NE-GIS certificate system. Rhode Island off-grid and customer-sited generation facilities are eligible renewable energy sources.[232] Generation units located adjacent to NEPOOL may qualify as eligible renewable energy resources if the energy is transmitted to and used by New England customers.[233] These standards have not changed in the prior decade.

Washington

Washington maintains in-state REC multipliers and requires in-state and in-region generation to create RPS RECs. The Washington Code provides that a qualifying utility may count renewable distributed generation at double the facility's actual electrical output if the utility owns or has contracted for the distributed generation and associated Renewable Energy Credits, or has contracted to purchase the Renewable Energy Credits.[234] An electricity facility located in the Pacific Northwest or where the electricity is delivered in to Washington on a real-time basis with no integration services remains the standard over the prior decade.[235] There has been no change between the 2011 statute contained in the 2008 Washington Administrative Code.

IV. EMERGING FEDERAL CIRCUIT COURT CONFLICT REGARDING THE COMMERCE CLAUSE

As of 2020, there suddenly is new conflict and confusion as to application of the Dormant Commerce Clause to state electric power regulation that discriminates on the basis of the geographic origin of the electricity. In context, the majority of the twenty-nine states' discriminatory RPS RECs requirements documented in the decade-ago detailed survey[236] have remained in place.[237] Of the twenty-two states whose RPS RECs discriminated a decade ago, only Arizona, Nevada, Kansas, and Oregon have dropped their discriminatory laws or let them expire.[238] In addition, Delaware and Ohio let their in-state RPS RECs credit multipliers expire but maintained RPS incentives for in-state equipment and/or in-state preferences,

230. *Id*.
231. Ferrey, *Threading the Constitutional Needle, supra* note 100.
232. 39 R.I. GEN. LAWS § 39-26-4 (2016).
233. *Id*. § 39-26-5 (2016).
234. WASH. REV. CODE ANN. § 19.285.040 (2012).
235. WASH. ADMIN. CODE 194-37-040 (13)(a)(i)–(ii) (2008).
236. Ferrey, *Threading the Constitutional Needle*, *supra* note 100.
237. *See supra* at section II.A.
238. Ferrey, *Threading the Constitutional Needle*, *supra* note 100.

respectively. So, a handful of states, constituting a minority of the twenty-two states whose RPS RECs included some modest or major geographic discrimination a decade ago, have done away with that discrimination.

All of these expirations occurred after such geographic discrimination regarding electric power was found objectionable by the Seventh and Second Courts of Appeals, followed by the Eighth Circuit Court of Appeals. It is reasonable to assume that these federal court decisions may have been a motivating factor. However, recently two federal circuit court panels in the same two Seventh and Second Circuits declared that for nuclear rather than renewable energy in-state geographic preferences there was no Commerce Clause violation: State programs could discriminate geographically by affording Zero Emission Credit ("ZEC"—RECs for existing nuclear power plant generation) subsidies only to in-state nuclear power and not to out-of-state nuclear power produced and sold into the state.[239]

This section examines decisions of the Second and Seventh Circuits, which both recently diverged from prior decisions of their circuit panels to condone state subsidies of in-state nuclear electric power and to allow *de facto* discrimination against out-of-state nuclear power sold into the states. This section analyzes how both circuits disqualified out-of-state challengers' claims on procedural standing grounds and avoided acknowledging or reconciling their prior panel determinations to the contrary regarding renewable power RECs. Both circuits suggested that the states in question were acting as market participants, which this next section notes is contrary to several Supreme Court decisions. The Supreme Court denied certiorari on these matters, creating disconnection of precedent and an uncertainty in the law. So, in 2022 there is an intra-circuit court standoff that requires a Supreme Court resolution.

A. TWO CIRCUITS EQUIVOCATE ON ZEC COMMERCE DISCRIMINATION

In 2017, two states, Illinois and New York, chose to subsidize their nuclear electric generation plants which were maintained in operation beyond their initial federal Nuclear Regulatory Commission licenses by renewing those licenses, and utilizing REC-like subsidies called ZECs. The Illinois program was challenged on the grounds that Illinois had regulated in favor of in-state industries by requiring utilities to buy ZECs, with the state only granting salable ZECs to the two nuclear facilities located within its own borders.[240] The New York complaint proceeded similarly with owners of out-of-state nuclear power plants that sold their power in interstate wholesale markets alleging that New York had discriminated against out-of-state commerce by selectively granting its ZECs only to in-state nuclear plants.[241]

239. *See infra* section IV.A.
240. *Old Mill Creek*, 2017 WL 3008289, at 7.
241. *See Zibelman*, 906 F.3d, at 58.

When challenged in July 2017, the Illinois district court found that the state's ZEC program survived plaintiffs' allegations that it violated the Dormant Commerce Clause.[242] The primary basis of the holding was procedural rather than on the merits; the plaintiffs were held to lack standing because, as out-of-state nuclear facility owners, they could not demonstrate certain personal injury from Illinois' implementation of the ZEC law.[243] This inability to prove discriminatory personal injury was found to involve and require speculation without any particular support cited by the court: "I conclude that there is a substantial possibility that the statute will be non-discriminatory in effect."[244]

The Seventh Circuit found that the Illinois ZEC program does not "overtly" or expressly single out or discriminate against out-of-state power under the Dormant Commerce Clause. The court said it would trust the state regulatory agency, the Illinois Commerce Commission, to administer the statute without geographic discrimination.[245] However, in the three years following the court's decision, no Illinois ZECs were provided to out-of-state nuclear power plants whose power is made available and transmitted through interstate wholesale commerce into Illinois for purchase by Illinois utilities and then resold to Illinois consumers.[246]

The Illinois federal trial court in 2017 stated that it would assume that fair objectives articulated by the Illinois legislature in its ZECs statute are true, unless there are circumstances to force the court to conclude that it could not have been the actual objective of the legislature.[247] On appeal, the Seventh Circuit affirmed.[248] On the key procedural issue of whether a federal court should actually take evidence to examine and determine true state legislative purpose instead of accepting the purpose stated in the preamble to state legislation as always true until proven otherwise, the Illinois court decision is contrary to another federal court,[249] the Second Circuit,[250] and the Supreme Court,[251]

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242. *Old Mill Creek*, 2017 WL 3008289, at 17.

243. *Id*. at 5.

244. *Id*. at 16.

245. Electric Power Supply Ass'n v. Star, 904 F.3d 518, 525 (7th Cir. 2018).

246. Village of Old Mill Creek v. Star, 2017 U.S. Dist. LEXIS 109368 at 16. Plaintiffs in the Illinois ZEC case argued that the law has a discriminatory purpose, noting that it was enacted for political reasons, specifically to save jobs and property tax revenues from the two nuclear power plants in Illinois and protect the environment by reducing the emissions of air pollutants created by energy generators. *Id*.

247. *Id*. (quoting Minnesota v. Clover Leaf Creamery Co., 449 U.S. 456, 463 (1981)). The court concluded that the statute was both environmental and job saving legislation, and the court was not led to believe there was discrimination by the legislature to favor in-state power generators. *Id*.

248. Electric Power Supply Ass'n v. Star, 904 F.3d 518 (7th Cir. 2018).

249. Entergy Nuclear Vt. Yankee, LLC v. Shumlin, 838 F. Supp. 2d 183, 228 (D. Vt. 2012) (saying a federal court would be "naïve" to simply accept state legislation's stated value).

250. *See Id*. at 416 (refusing to end inquiry into state law's purpose at preamble).

251. Gade v. Nat'l Solid Wastes Mgmt. Ass'n, 505 U.S. 88, 105 (1992) ("In assessing the impact of a state law on the federal scheme, we have refused to rely solely on the legislature's professed purpose and have looked as well to the effects of the law.").

respectively. Each of these three courts articulated that a court should take and consider evidence to determine true purpose rather than simply accepting the state government-stated purpose.[252] This 2019 Seventh Circuit ZEC opinion avoids discussion or acknowledgement of the Seventh Circuit's prior 2013 unanimous opinion by Judge Posner, which stated that similar RECs programs favoring in-state electric commerce are geographically discriminatory and violate the Constitution's Dormant Commerce Clause.[253]

Also in 2017, the U.S. District Court for the Southern District of New York upheld a parallel New York state ZEC program awarding REC-like ZEC incentives only to in-state nuclear power plants and not to out-of-state nuclear power plants whose power was transmitted into the New York electric market.[254] The New York federal trial court, similarly to the Illinois federal trial court, found that plaintiff out-of-state nuclear power plant owners lacked standing or certain injury to bring any claims.[255] The trial court found that the plaintiffs' allegations to not be within the "zone of interests" provided by the Dormant Commerce Clause.[256] The Supreme Court eliminated this "zone of interests" test years before for cases not involving the federal Administrative Procedures Act and had virtually never applied it to standing determinations in constitutional cases.[257]

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252. *See supra* notes 248–50.

253. Illinois Com. Comm'n v. Fed. Energy Regul. Comm'n Illinois Commerce Comm'n., et al. v. Fed. Energy Regulatory Comm'n, 721 F.3d 764, 776 (7th Cir. 2013) (citing Ferrey, *Threading the Constitutional Needle*, *supra* note 100 (Michigan and other Midwest states cannot provide RECs only to in-state renewable energy generation without violating the Dormant Commerce Clause).

254. Coalition for Competitive Elec., Dynergy, Inc. v. Zibelman, 272 F. Supp. 3d 554 (S.D.N.Y. 2017).

255. *See Coalition for Competitive Elec*., 272 F.Supp. 3d at 580 commitment 82 (finding that plaintiffs do not have a cause of action because they do not show a nexus between their injury and the ZEC program). *See generally* Complaint at 11-17, Transcanada Power Marketing Ltd. v. Bowles, 2010 WL 4599490 (D. Mass., Apr. 16, 2010) (No. 4:10-cv-40070) (alleged Dormant Commerce Clause violations in its requirement that state utilities enter long-term contracts with in-state new renewable energy projects, and that solar renewable energy credits be earned only by in-state solar photovoltaic power projects, regardless of where the power generation creating the RECs was sold); Rocky Mountain Farmers Union v. Goldstene, 843 F. Supp. 2d 1071, 1098 (E.D. Cal. 2011); Complaint for Injunctive and Declaratory Relief at 2, Am. Tradition Inst. v. Colorado, 876 F. Supp. 2d 1222 (D. Colo. 2011) (No. 1:11-cv-00859); Texas v. EPA, 726 F.3d 180, 200 (D.C. Cir. 2013).

256. *Id*. The Zone of Interests test was introduced in Data Processing Serv. Orgs. v. Camp, 397 U.S. 150, 152 (1970). It was applied when construing claims under the Administrative Procedures Act. Bennett v Spear, 520 U.S. 154 (1997). Thereafter in Lexmark International, Inc. v. Static Control Components, Inc., 572 U.S. 118 (2014), the Court in a unanimous opinion disavowed future use of the Zone of Interests test to determine standing in statutory cases. In constitutional cases, such as with state ZEC programs, "Only once—in a 40-year-old footnote—has the Supreme Court applied it to a constitutional claim. *See* Bos. Stock Exch. v. State Tax Comm'n, 429 U.S. 318, 321 n.3 (1977)." Joshua Matz, *The Constitution and the Zone of Interests Test*, TAKE CARE BLOG (Jan. 25, 2019), https://perma.cc/BKT9-R273.

257. *See Coalition for Competitive Elec*., 272 F. Supp. 3d at 583 n. 32 ("Moreover, the Supreme Court has suggested that a less generous approach may be appropriate outside of the Administrative Procedure Act ('APA') context" (citing Lexmark International, Inc. v. Static Control Components, Inc.,

The New York trial court stated that a state law or regulation only violated the Dormant Commerce Clause if it (1) clearly discriminates against interstate commerce in favor of intrastate commerce, (2) imposes a burden on interstate commerce disproportionate with the local benefits the statute achieves, or (3) has the practical effect of exerting an 'extraterritorial' control on commerce occurring wholly outside of the regulating state.[258] Aside from lack of "zone of interests" standing for plaintiffs, the trial court concluded that "[e]ven if Plaintiffs had a cause of action, their Dormant Commerce Clause claim would fail because New York was acting as a market participant, not as a regulator, when it created ZECs."[259] The court did not get far into the merits because it found no standing for the plaintiffs, terminating the matter.[260]

This *dicta* of the New York trial court on a market participant exception to the Dormant Commerce Clause does not align with Supreme Court Dormant Commerce Clause precedent, should the Court later hear such claims. First, regarding whether either state was a market participant using state taxpayer funds in order to qualify to be excepted from the Dormant Commerce Clause, both New York and Illinois instead acted by regulating in-state private electric power utilities and requiring private companies to purchase in-state ZECs.[261] Neither New York nor Illinois expended state-owned funds to pay for any ZEC subsidies. Instead of expending state tax funds, each state regulated private industry (utilities) to charge their private ratepayers and expend those collected ratepayer funds only for in-state ZECs mandated by state regulation.[262] The trial court appears not to have given countenance to these elements in stating that New York was acting only in its capacity as an excepted market participant in the ZECs markets.[263]

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572 U.S. 118 (2014)). However, this "zone of interest" test, other than for the federal Administrative Procedures Act, had been eliminated decades earlier by the Supreme Court.

258. *Id.* at 53. This is the Pike case balancing test rather than the strict scrutiny test that the Supreme Court applies to any type of state geographic discrimination against commerce based on its place of origin. *See* FERREY, ENVIRONMENTAL LAW, *supra* note 177 at 174–76. S*ee generally* Selevan v. N.Y. Thruway Auth., 584 F.3d 82, 90 (2d Cir. 2009).

259. *Coalition for Competitive Elec.*, 272 F. Supp.3d at 583–86 (relying on United Haulers Ass'n, Inc. v. Oneida-Herkimer Solid Waste Mgmt. Auth., 261 F.3d 245, 255 (2d Cir. 2001), in which the government entity owned the discriminating company; also relying on Hughes v. Alexandria Scrap Corp., 426 U.S. 794, 810 (1976), which is inapplicable unless the state places its own tax money in commerce, which is not the case in New York). *See also* Allco Fin. Ltd. v. Klee, Nos. 3:15-cv-608 (CSH), 3:16-cv-508 (CSH), 2016 WL 4414774 at *23–25 (D. Conn. Aug. 18, 2016), *aff'd*, 861 F.3d 82 (2d Cir. 2017).

260. *Id.*

261. Vill. of Old Mill Creek v. Star, No. 17 CV 1163–64, 2017 U.S. Dist. LEXIS 109368, at *22–23 (N.D. Ill. July 14, 2017); Zibelman, 272 F. Supp. 3d at 583.

262. Star 2017 U.S. Dist. LEXIS 109368 at *22–23; Zibelman, 272 F. Supp. 3d at 583.

263. *See* FERREY, ENVIRONMENTAL LAW, *supra* note 177, at 167–69; *see also Star* 2017 U.S. Dist. LEXIS 109368 at *42; *see also Zibelman,* 272 F. Supp. 3d at 582. In neither the Illinois nor New York programs, did the state (1) commit any of its state money into commerce, (2) own any of the nuclear

The trial court declared that New York would not be required by the Dormant Commerce Clause precedent to treat identical kilowatt-hours of electric power transmitted within the state by in-state and out-of-state electric commerce non-discriminatorily: ". . .neither is New York required to provide financial assistance in the form of ZECs to out-of-state power plants when the ZECs are ultimately paid for by New York ratepayers."[264] The New York court here expressly acknowledged that the New York ZEC program is not tied to or paid for with state-owned funds or a tax incentive but instead is funded by private ratepayers, concluding that it was sufficiently different to distinguish ZECs from an unconstitutional subsidy.[265] Ultimately, the costs associated with the ZEC contracts were and are paid, through state regulation, by New York electric retail ratepayers, not taxpayers or with taxpayer funds.[266] However, individual electric ratepayer money collected by private utilities mandated by state law is not state money raised through taxes – it flows from individual electric rate-paying consumers to their private electric utilities who then purchase ZECs only from owners of the in-state nuclear plants, despite those utilities also engaging in similar commerce for identical electric power with out-of-state power producers.

Also of note, the New York federal trial court relied on the 1994 Supreme Court decision in *West Lynn Creamery, Inc. v. Healy*[267] to note that the Court has not addressed the constitutionality of subsidies, thereby giving the lower courts discretion to construe them.[268] However, should the Supreme Court later hear a case such as this, in *West Lynn Creamery,* the Court found that geographically discriminatory subsidies, when implemented through state regulation, did constitute violations of the Dormant Commerce Clause.[269] The Supreme Court in *West Lynn* found, contrary to the New York and Illinois courts, that this discrimination against out-of-state commerce was a violation of the Dormant Commerce Clause. The Second Circuit did not distinguish its prior holding in *Entergy v. Shumlin* also concerning state regulation of nuclear power, in which the court accepted and examined evidence to determine the true state legislative purpose of the regulation rather than defer to the state's stated purpose,[270] which evidence the Second Circuit did not examine in this more recent case.[271]

The Electric Power Supply Association and merchant power plant owner NRG asked the Supreme Court for a writ of certiorari to appeal both the Second and Seventh Circuits' opinions upholding the New York and Illinois ZEC programs,

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power plants benefiting from ZECs, or (3) own the retail utilities which were ordered by state regulation to purchase the ZECs with ratepayer rather than state money.

264. *Zibelman,* 272 F. Supp. 3d at 585.

265. *Id.* at 586.

266. *See id.* at 585.

267. West Lynn Creamery, Inc. v. Healy, 512 U.S. 186, 199 (1994).

268. Zibelman, 272 F. Supp. 3d at 586.

269. *See West Lynn Creamery,* 512 U.S. at 187.

270. *See* Entergy Nuclear Operations v. Shumlin, 733 F.3d 393, 416 (2d Cir. 2013).

271. *See* FERREY, ENVIRONMENTAL LAW, *supra* note 177.

with merchant plant owner Calpine joining the Second Circuit *certiorari* petition. The Supreme Court, which grants only approximately one percent of *certiorari* petitions annually, denied the petitions for appeal regarding both of these decisions.[272]

B. INFLECTION OF THE COMMERCE CLAUSE

There also is a constitutional preemption issue lurking in these decisions. The electric power sale markets in which Illinois and New York state participate are wholesale ISO markets, and each is exclusively federally regulated by FERC.[273] The Supreme Court has determined that this exclusive federal regulation creates an inpenetrable "bright line" that no state regulation can act to alter.[274] Even if in-state ZEC requirements were deemed justified by the regulating state as serving a compelling state interest, such as preserving in-state nuclear facility jobs if nuclear power plants could not otherwise operate cost-effectively in modern competitive electric markets, the regulation may still be invalid even under the most forgiving court balancing test.[275] Typically the state must first demonstrate and establish that the state statute or regulation employs the least restrictive means available to the state to minimally affect interstate commerce.[276]

Neither the Illinois nor New York statutes employs the least restrictive means to ensure state electric reliability by choosing to make in-state geographic location its meta-criterion, choosing to subsidize in-state industry with ZECs and exclude identical out-of-state industry producing identical electric power exported into and consumed in the regulating state. And additional motives—such as furthering an environmental goal—does not overcome constitutional discrimination: According to the Supreme Court in a decision relied on for other purposes by the New York court addressing ZECs, a state environmental purpose in regulating, no matter how profound, will not justify discrimination based on the geography of commerce "even if environmental preservation were the central

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272. *See Order List: 587 U.S.*, U.S. SUPREME COURT, 1, 3 (Apr. 15, 2019), https://perma.cc/7ESB-E5KB. (Certiorari denied in Elec. Power Supply Ass'n. v. Star, 18-868; Elec. Power Supply Ass'n. v. Rhodes 18-879).

273. *See* MISO, *Operating the Power Grid, Managing Energy Markets, Planning the Future Grid*, https://www.misoenergy.org/about/ (the MISO system in which Illinois participates, as well as part of the state participating in the PJM ISO).

274. *See supra* section II.D.

275. *See* FERREY, ENVIRONMENTAL LAW, *supra* note 177, at 174–78.

276. *See* Entergy Nuclear Operations v. Shumlin, 733 F.3d 393, 416 (2d Cir. 2013) (Stating a basis in the statute other than what a court determines to be the actual purpose or effect of a statute, does not allow a state to avoid facial discrimination, strict scrutiny, or a finding of a violation of the Dormant Commerce Clause.); Gade v. Nat'l Solid Wastes Mgmt. Ass'n, 505 U.S. 88, 105 (1992). ("In assessing the impact of a state law on the federal scheme, we have refused to rely solely on the legislature's professed purpose and have looked as well to the effects of the law."); Norris v. Lumbermen's Mut. Cas. Co., 881 F.2d 1144, 1150 (1st Cir. 1989).

purpose of the pricing order, that would not be sufficient to uphold a discriminatory regulation."[277]

Commerce in interstate electricity is particularly sensitive to being stricken for geographic Commerce Clause discrimination in three aspects. First, the technical, scientific reality is that electricity moves instantaneously in interstate commerce. The Supreme Court noted that it is now "possible for a customer in Vermont [to] purchase electricity from an environmentally friendly power producer in California or a cogeneration facility in Oklahoma."[278] Second, the Supreme Court resolved any dispute or vagueness as to whether electric power wherever created is a uniform article in interstate U.S. commerce:[279]

> "it is difficult to conceive 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."[280]

Third, both Illinois and New York have chosen voluntarily to participate in interstate wholesale electric markets. Their choice ratchets-up resulting exclusive federal jurisdiction over all interstate and wholesale power transactions including the nuclear transactions earning ZECs, and consequently excluding state jurisdiction. Both Illinois and New York participate to obtain power from, and sell power through, regional federally regulated independent system operators (ISOs) which independently regulate and distribute federally regulated interstate wholesale power for them.[281] FERC exclusively regulates ISO operations and requires them to discourage in-state and regional discrimination and to encourage free competition. FERC orders require each ISO wholesale power and transmission market to operate competitively in a non-discriminatory manner:

- FERC Order 888 created open-access non-discriminatory transmission access for all electricity produced by independent power producers, whether renewable or nuclear.[282]
- FERC Order 2003 extended interconnection to the grid on a nondiscriminatory basis, prohibiting transmission facility owners from discriminating.[283]

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277. West Lynn Creamery, Inc. v. Healy, 512 U.S. 186, 204 (1994) (citing City of Philadelphia v. New Jersey, 437 U.S. 617, 626–27 (1978).

278. New York v. FERC, 535 U.S. 1, 8 (2002) (citing Transmission Access Policy Study Group v. FERC, 225 F.3d 667, 681 (D.C. Cir. 2000).

279. *See id.*; *see also id.* at 16 (transmissions on the interconnected national grids constitute transmissions in interstate commerce).

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

281. Illinois utilities, in different parts of the state, participate in the PJM ISO or the Midwest ISO; New York participates in NY-ISO. *See Independent System Operator*, SCIENCE DIRECT, https://perma.cc/WNF3-E2UF (last visited Sept. 4, 2021).

282. Order No. 888, 18 C.F.R. pts. 35 & 385 (1996). *see also* SEVEN FERREY, THE NEW RULES: A GUIDE TO ELECTRIC MARKET REGULATION, at 41–42 (1st ed. 2000).

283. Nat'l Assoc. of Regulatory Utility Commissioners v. FERC, 475 F.3d 1277 (D.C. Cir. 2007).

- FERC Order 1000 required ISOs to eliminate discrimination regarding transmission tariffs.[284]
- FERC Order 2222 allowed small renewable projects to be aggregated to participate non-discriminatorily, if they wish, in all ISO markets.[285]

PJM, the largest FERC-regulated independent System Operator of the U.S transmission grid and wholesale power markets., determined that state subsidies to renewable resources (and wind resources and ZEC subsidies to nuclear) "allow resources to suppress capacity market clearing prices, rendering the [resulting] rate unjust and unreasonable."[286] If these state subsidies suppress interstate wholesale power markets making them not fairly competitive, this factor is exacerbated if in addition it is compounded by regional discrimination. Renewable RECs and nuclear ZECs are not significantly different regulatory mechanisms: ZECs programs are predicated on their states' RECs programs. What is unusual in these most recent ZEC decisions is that neither the Second nor Seventh Circuits distinguish the contrary earlier decisions of their own circuit panels; they avoid acknowledging them.

Electricity is in interstate commerce. The two ZEC states *de facto* are treating in-state electricity differently than out-of-state-generated electricity that is in wholesale interstate commerce sold into these two states. Only the former in-state nuclear power is made eligible for ZEC subsidy by state regulation: Both the New York and Illinois ZEC statutes discriminate geographically against identical units of electric power produced by out-of-state power generation facilities, sold wholesale to the regulating states' in-state utilities, and then re-sold at retail to in-state consumers. Juxtaposed against the Second, Seventh, and Eighth Circuit court opinions of only a few years before finding that states cannot discriminate in how they regulate or incentivize energy nor allocate their subsidies only to in-state entities, recently different panels of the Second and Seventh Circuits have rendered contrary opinions regarding nuclear plant ZECs.

Instead of becoming a market participant, each state acts as a regulator to cause private investor-owned stock-exchange-traded companies to subsidize only certain in-state nuclear power technologies notwithstanding that each state actually chose to participate exclusively in the interstate wholesale power markets. United States competitive wholesale power markets pursuant to the Federal Power Act and Supreme Court interpretation of the Supremacy Clause of the Constitution are regulated exclusively by the federal government through FERC and not by the states. State law is prohibited by the Supreme Court even indirectly to interfere with exclusively FERC-regulated ISO wholesale power markets through

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284. *Transmission Plan*. & Cost Allocation by Transmission Owning & Operating Pub. Utilities, 136 F.E.R.C. ¶ 61051 (2011).

285. *Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 172 F.E.R.C. ¶ 61,247 (2020).

286. Calpine Corp., 163 FERC para. 61236, at 63–64 (2018).

state enactment of discriminatory regulation imposed on independent private non-utility-owned power plants which transact their power on a wholesale FERC-regulated basis.[287]

These two most recent 2019 opinions interpret the Dormant Commerce Clause to allow states to enact regulations to redirect private electric ratepayer funds/revenue only to in-state nuclear plants participating in the wholesale market with those funds never owned by the state nor the state competing as a market participant in the market. FERC orders bar discrimination in the interstate wholesale power markets.[288] Three earlier federal circuit court decisions in the last decade, and earlier Supreme Court decisions on the Dormant Commerce Clause, also bar state regulation geographically discriminating against interstate electric power commerce.[289]

CONCLUSION

Regarding state geographic discrimination with respect to interstate electric power, two leading federal circuit courts, the Second and Seventh Circuits, had different panels create dissonant and somewhat confusing decisions given prior decisions. This split creates intra-circuit conflict on an important constitutional issue regarding perhaps the most important invention[290] and the most critical technology in the American economy.[291] Until there is a Supreme Court resolution, one can place this conflict in context for the future as to which state electricity subsidies, RECs or ZECs, are most used and which will most profoundly impact the future of the U.S. electric system's contribution to climate change.

First, in terms of importance, numbers matter. Only four states[292] have ZEC programs since they first appeared six years ago;[293] twenty-nine states maintain decade-old RECs programs. There are almost one-hundred nuclear power plants at sixty-five locations in thirty-one U.S. states.[294] Nuclear power does not generate GHG emissions of carbon while producing electricity. However, among these thirty-one states with nuclear power plants, they only earn ZECs in the four ZEC states, and new nuclear power plants take decades to successfully conceive, permit, and build.

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287. *See supra* section II.B.

288. *See supra* notes 269–72.

289. *See supra* section III.B.

290. *See* Alves, *supra* note 4.

291. *See Amount of Revenue by Source supra* note 5.

292. U.S. DEPARTMENT OF ENERGY, EIA, *Today in Energy: Ohio and New Jersey also have ZECs for their in state nuclear power facilities*, https://www.eia.gov/todayinenergy/detail.php?id=41534.

293. New York adopted the first ZEC program for nuclear power in 2016. *See,* MCDERMOTT WILL & EMERY, *NY Creates New Emissions Credit for Nuclear Plants*, ENERGY BUSINESS LAW (Sept. 20, 2016), https://www.energybusinesslaw.com/2016/09/articles/environmental/ny-creates-new-emissions-credit-for-nuclear-plants/.

294. FERREY, ENVIRONMENTAL LAW, *supra* note 177, at 607.

In contrast, solar and other renewable power projects that do not generate emissions of carbon while producing electricity can be conceived, sited, built, and implemented in a few months to earn RECs in the twenty-nine states that offer them.[295] Renewable energy sources are forecast to overtake natural gas as the dominant source of electricity generation in the U.S. in 2031, notwithstanding possible cessation of current federal tax subsidies for renewable energy.[296] Therefore, RECs in twenty-nine states for renewable energy technologies dominate new construction of power generation in real time compared to ZECs for aging nuclear power plants in four states as incentive mechanisms to address near-term climate change through altering conventional electric power generation technology.

Second, in terms of the U.S. contribution to climate change, the 2015 Paris Agreement of the UNFCCC Conference of the Parties on Climate committed to do everything required to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and to "pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change."[297] This commitment was in response to emission of CO_2 from fossil fuels maneuvering climate to the "tipping points . . . that will alter regional and global environmental balances . . . irreversible within the time span of our current civilization."[298] Meeting the commitments of this Agreement requires a near-term forty-five percent reduction in global greenhouse gas emissions from 2010 levels, and by 2050 global greenhouse gas emissions must be required to be net-zero.[299]

The Biden Administration has pledged to replace all electric power generation by fossil fuels with renewable energy by 2035.[300] This pledge occurs at the time when "climate commitments are not on track to meet Paris agreement (climate change) goals," and the world is not on track to limit "global temperature rise by no more than 2° C; and ideally not more than 1.5° C by the end of the century."[301] In this context, correct administration of RECs for renewable energy technologies becomes a key legal and regulatory fulcrum to implement renewable energy in the U.S.

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295. From author's experience with solar energy development.

296. Naureen S. Malik, *Renewables Will Top Gas in 2031 as Largest Energy Source*, BLOOMBERG LAW NEWS (June 17, 2016, 12:00 PM), https://perma.cc/7KKT-6CKB.

297. Paris Agreement Under the United Nations Framework Convention on Climate Change, Art. 2.1. a, U.N. Doc. FCCC/CP/2015/L.9/Rev.1.

298. *See generally New Science and Developments in Our Changing* Environment, 2009 UNEPY.B., 21, U.N. Doc. UNEP/GC.25/INF/2.

299. António Guterres, *Carbon neutrality by 2050: the world's most urgent mission*, United Nations Secretary-General (Dec. 11, 2020), https://perma.cc/SW9N-W7DJ.

300. *See* Patrick Whittle & Cathy Bussewitz, *Biden Faces Steep Challenges to Reach Renewable Energy Goals,* ABC News (Mar. 3, 2021), https://perma.cc/D7YY-VXK6.

301. UNITED NATIONS CLIMATE CHANGE, *"Climate Commitments Not on Track to Meet Paris Agreement Goals" as NDC Synthesis Report is Published* (Feb. 26, 2021), https://perma.cc/56YF-MYQ2.

U.S. constitutional law needs to be interpreted and expressed through a consistent set of holdings in the circuit courts. These intra-circuit stand-offs within the Second and Seventh Circuits regarding low-carbon and renewable power regulation now must be resolved by the Supreme Court. Until then, the U.S. cannot create and maintain a coherent or effective foundation for climate change policy going forward.