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Climate Change and the Convergence of Environmental and Energy Law

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CLIMATE CHANGE AND THE CONVERGENCE OF ENVIRONMENTAL AND ENERGY LAW

*Alexandra B. Klass**

INTRODUCTION

Upon being asked to contribute to the Fordham Environmental Law Review's 20th Anniversary book on the trajectory of environmental law over the past twenty years, I quickly realized that a reflection on twenty years of environmental law would also be, for me, a reflection on my twenty years as an environmental lawyer and scholar. I graduated from law school in 1992, practiced environmental law for just over ten years, and then moved to academia, where I have taught and written about environmental law for just under ten years. This type of reflection necessarily causes one to think about what has changed and what has remained the same during these twenty years, as well as future of the field.

Much is the same. Environmental law is still concerned with clean air, clean water, protecting species, remediating contaminated property, and ensuring decisions are made with sufficient information on and concern for potential adverse environmental impacts. Differing visions of federalism, in the context of jurisdiction over wetlands, the scope of the federal government's authority to protect species on private lands, and other areas, continue both in Congress and the courts. The lack of major federal legislation in the environmental law area has also been a constant over these past twenty years, with Congress limiting itself primarily to targeted fixes to existing legislation such as Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") and the Clean Air Act, even while the Environmental Protection Agency

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(EPA) has, at least during the Obama administration,¹ used a significant amount of its regulatory authority to address climate change through new rules governing greenhouse gas (“GHG”) emissions from power plants.²

On the other hand, there has also been change. While states took a back seat in environmental law initiatives from 1972 to 1992 in deference to the explosion of federal statutes during that time period, over the past twenty years states have become policy leaders on climate change, clean energy, and regulating new technologies in oil and gas law, such as hydraulic fracturing. This more recent focus on state law has also led to a resurgence of states and private parties relying on traditional common law theories, such as nuisance and the public trust doctrine, to address today’s environmental challenges – particularly climate change – in the wake of Congress’s inability to act in this area.³ These developments highlight climate change as the

1. See generally Thomas McGarity, *EPA At Helm’s Deep: Surviving the Fourth Attack on Environmental Law*, 24 *FORDHAM ENVTL. L. REV.* 205 (2013) (arguing that the EPA has undergone three waves of assaults that peaked during the Reagan Administration, but that during the first two years of the Obama Administration, EPA seized the offensive).

2. See, e.g., *Clean Air Act*, U.S. ENVTL. PROT. AGENCY, available at <http://www.epa.gov/air/caa/> (last updated Feb. 17, 2012) (“[T]he act passed by Congress in 1990 to amend the Clean Air Act. . . . was the last major amendment to the Act, although there have been minor changes since then.”); *Clean Air Act*, 42 U.S.C.A. Ch. 85; *Small Business Liability Relief and Brownfields Revitalization Act*, 42 U.S.C.A. §§ 9601, 9604 (2006) (amending CERCLA to “promote the cleanup and reuse of brownfields [and] provide financial assistance for brownfields revitalization.”); *Carbon Pollution Standard for New Power Plants*, U.S. ENVTL. PROT. AGENCY, available at <http://epa.gov/carbonpollutionstandard/> (last updated May 25, 2012) (describing EPA’s plan to “take common-sense steps under the Clean Air Act to limit carbon pollution from new power plants.”) Instead of referencing to this website generally, I’ve uploaded two citations for reference that are more specific (the proposed rule presented on the website and the regulatory impact analysis); ROBERT V. PERCIVAL ET AL., *ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY* 91-99 (6th ed. 2009) (discussing the explosion of federal environmental statutes between 1970 and 1980, the extension and refinement of those statutes between 1980 and 1990, Congressional efforts to weaken environmental statutes and regulations throughout the 1990s, and targeted, compromise legislation to address drinking water, food safety, brownfields, and fuel economy standards during the late 1990s and early 2000s).

3. See *Am. Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527, 2537 (2011) (holding that the Clean Air Act and EPA action displaced plaintiffs’ rights to bring federal common law nuisance actions against greenhouse gas emitters); *Alec L. v.*

focal point in environmental law today, as well as the important role of states in responding to that issue. Any response to climate change, however, cannot rely on traditional environmental law tools alone but must also focus on fundamental changes to domestic and international energy systems, bringing an entirely distinct field, energy law, into the discussion.

In this essay, I will focus on the growing convergence between environmental law and energy law, particularly at the state level, in an effort to provide some helpful insights with regard to both the last twenty years of environmental law and where it may head in the future. Many will agree that climate change is one of today's most difficult and most important environmental law challenges. It is also one that, despite major efforts, Congress has failed to address in any meaningful way and does not appear prepared to address any time soon. While the EPA has done what it can during the Obama administration to address GHG emissions from power plants and automobiles, it is difficult for it to tackle climate change more comprehensively without Congressional action.⁴

Jackson, 863 F. Supp. 2d 11, 13, 17 (D.D.C. 2012) (dismissing with prejudice the plaintiffs' complaint against various federal agencies for failing to protect the atmosphere as a commonly shared public trust resource on the grounds that the public trust doctrine is a matter of state law); Lesley K. McAllister, *Regional Climate Regulation: From State Competition to State Collaboration*, 1 SAN DIEGO J. CLIMATE & ENERGY L. 81, 82 (2009) (discussing the important role of states in climate change policy); Tracy D. Hester, *A New Front Blowing In: State Law and the Future of Climate Change Public Nuisance Litigation*, 31 STAN. ENVTL. L. J. 49, 53 (2012) (examining the potential for using state common law nuisance to combat climate change); David L. Markell & Emily Hammond Meazell, *A Primer on Common Law & Related Causes of Action in Climate Change Litigation*, in GLOBAL CLIMATE CHANGE AND U.S. LAW (2d ed., Michael B. Gerrard & Jody Freeman, eds.) (forthcoming); David Takacs, *The Public Trust Doctrine, Environmental Human Rights, and the Future of Private Property*, 16 N.Y.U. ENVTL. L. J. 711, 711-12 (2008) (arguing that activists will increasingly use the public trust doctrine to combat climate change and other environmental ills); *Legal Action*, OUR CHILDREN'S TRUST, available at <http://ourchildrenstrust.org/legal> (last visited Feb. 1, 2013) (describing the various legal actions taken at the state, federal and international level supported by Our Children's Trust).

4. The lack of any international agreement governing CO₂ emissions and climate change among the largest emitters like the United States, China, and India, highlights both the international dimensions of the problem and the unique challenges states and local governments face in attempting to address the issue.

Indeed, even very recently, some scholars, notably Professor Lincoln Davies and Professor Amy Wildermuth, have lamented the continuing gap between environmental law and energy law on a federal level and how that divide has contributed to the inability of policymakers to address climate change.⁵ At the same time, however, in recent years, states and local governments have enacted significant policy measures to address climate change. These include California's GHG limits on automobile emissions that were ultimately adopted by the federal government; state renewable portfolios standards to spur the growth of renewable energy in the electricity sector; state legislation to limit or prohibit the use of new coal-fired electricity generation; state and local support for distributed generation of wind and solar energy and increased green building efforts; and, of course, California's Global Warming Solutions Act, the state's most recent and ambitious effort to cap GHG emissions and place significant limits on those emissions from power plants, vehicles, and other sources.⁶ A hallmark of each of these state policies is an effort by lawmakers to bridge the environmental/energy law divide.⁷

5. See, e.g., Amy J. Wildermuth, *The Next Step: The Integration of Energy Law and Environmental Law*, 31 UTAH ENVTL. L. REV. 369 (2011) (contending that environmental law and energy law must become more integrated to address climate change and other pressing environmental and energy law concerns); Lincoln L. Davies, *Alternative Energy and the Energy-Environment Disconnect*, 46 IDAHO L. REV. 473, 475-76 (2010) (same).

6. California Global Warming Solutions Act of 2006, CAL. HEALTH & SAFETY CODE § 38550 (West 2012) (directing the California Air Resources Board to set a limit on GHG emissions to be achieved by 2020, based on 1990 levels); *Facts About California's Climate Plan*, CAL. AIR RES. BD. (Sept. 25, 2010), available at http://www.arb.ca.gov/cc/cleanenergy/clean_fs2.pdf (listing the initiatives aimed at reducing emissions from vehicles and power plants, such as a cap-and-trade programs and the "Pavley Standards," which will reduce vehicle GHG emissions by 30% by 2016).

7. Although not the primary focus of this essay, it is important to note the recent abundance of new domestic oil and gas resources as a result of technological innovations, such as hydraulic fracturing, as a major development linking the environmental and energy law fields. See INT'L ENERGY AGENCY, *WORLD ENERGY OUTLOOK 2012* (2012), available at <http://www.iea.org/W/bookshop/add.aspx?id=433>; Elisabeth Rosenthal, *U.S. to Be World's Top Oil Producer in 5 Years, Report Says*, N.Y. TIMES, (Nov. 12, 2012) available at http://www.nytimes.com/2012/11/13/business/energy-environment/report-sees-us-as-top-oil-producer-in-5-years.html?_r=0. This

This list of climate change initiatives is hardly complete. It does reflect, however, the important focus states have placed on climate change in the face of the federal policy void. Most important, though, for purposes of this essay, this list shows that many of the state initiatives to address climate change fall within the traditional realm of energy law as much as or more than they fall within the traditional realm of environmental law. Thus, at least at the state level, the environmental/energy law gap is not as vast as one might think. While this reliance on energy law tools to meet climate change goals has many positive benefits, it also has risks. Using energy policy to address climate change at the state level often requires impacting regional energy markets, such as electricity and transportation fuels, rendering states vulnerable to legal challenges that they are discriminating against interstate commerce. The resulting lawsuits and potential lawsuits highlight the difficulty states face in attempting to address climate change, where limiting the scope of regulation to in-state sources will result in little progress, particularly as compared to the historic regulation of traditional air, water, and land pollutants with significantly more localized effects.

Part I provides a brief discussion of the fields of environmental law and energy law, including the barriers that historically existed between them and how those barriers have partially broken down in recent years. Part II considers in more detail some of the energy law-related climate change initiatives listed above to highlight the growing links between the two fields and some of the legal challenges that have followed. Last, Part III contains some observations regarding the convergence of the two fields and what it may mean for the future of environmental law. I note here that much

dramatic increase in domestic oil and gas resources has many economic and environmental benefits but also results in increased CO₂ emissions and has drawn funding and focus away from renewable energy development. *See, e.g.*, INT'L ENERGY AGENCY, ENERGY TECHNOLOGY PERSPECTIVES 2012 (2012), available at <http://www.iea.org/Textbase/npsum/ETP2012SUM.pdf> ("The specific emissions from a gas-fired power plant will be higher than average global CO₂ intensity in electricity generation by 2025, raising questions around the long-term viability of some gas infrastructure investment if climate change objectives are to be met."). Other current issues that bridge environmental and energy law include (1) siting challenges to wind and solar developments based on land use and wildlife concerns, and (2) state-local preemption questions arising from traditional and renewable energy development such as whether municipalities can ban wind farms and natural gas wells.

of the discussion in this essay on state initiatives that bridge the environmental/energy law divide apply equally to the federal government. This is highlighted by the Obama administration's current focus on imposing new pollution control standards on power plants to influence fuel choice decisions. For now though, I will limit the discussion to state initiatives, to highlight the important and significant role states have played in U.S. efforts to address climate change over the past twenty years.

I. DEVELOPMENTS IN ENERGY LAW AND ENVIRONMENTAL LAW

Although energy law and environmental law historically have covered very different topics and arose out of very different structures, changes in both fields have created greater links between the two on substantive coverage and structure. Energy law has traditionally focused on the extraction and production of energy resources with specific goals of short-term efficiency and economic growth. The field has substantively covered in general (1) electricity generation, transmission, and markets, including the laws governing the production, transportation, and sale of fuels used for electricity generation such as nuclear energy, coal, and natural gas; (2) the laws governing fuels used in transportation such as oil and biofuels; and, more recently (3) renewable energy including wind, solar, hydropower, and geothermal energy. On a structural level, energy law arose primarily from public utility and antitrust law, which focused on economics, monopolies, and markets.⁸ With regard to federalism issues, while state and local laws regulated resource extraction and electricity as early as the late 19th century, federal legislation in this area was also quite early, with Congress enacting major federal laws such as the Natural Gas Act and the Federal Power Act in the 1930s, followed by significant amendments to those laws in subsequent years.⁹

Environmental law, by contrast, has focused primarily on conservation and protection of land, water, air, species, and resources for purposes of protecting human health as well as for long-term preservation of environmental, cultural, and aesthetic values. On a

8. See Davies, *supra* note 5, at 475-76.

9. See *New York v. FERC*, 535 U.S. 1, 9-15 (2002) (describing development of federal regulation of electricity transmission); *Pub. Util. Comm'n v. Attleboro Steam & Elec. Co.*, 273 U.S. 83, 89 (1927).

structural level, environmental law did not grow out of economic regulation like energy law, but instead focused on risk assessment and the creation of regulatory tools to limit the environmental impacts of an industrialized society, leading to command-and-control regulation for industrial and other sources of pollution.¹⁰ Notably, while state and local environmental protection statutes also date back to the 19th century, Congress did not enact the major federal environmental laws or create a federal environmental protection agency until the 1970s.¹¹ In light of these different origins and goals, energy lawyers and policymakers as well as environmental lawyers and policymakers have until recently mostly talked past each other.¹²

Today, a review of energy law and environmental law casebooks shows more overlap than would have been evident 20 years ago, particularly on the energy law side. Current energy law textbooks contain significant treatment of the impacts of pollution control regulations on energy production, generation, transportation, and their respective markets, as well as a discussion of climate change.¹³ Although a similar adoption of energy law in environmental law textbooks is not as noticeable, the leading texts all discuss climate change and some focus on the development of renewable energy and alternative transportation fuels.¹⁴ Moreover, as Professor Davies has noted, both environmental law and energy law now look more to market solutions and trading mechanisms to achieve their goals

10. See Davies, *supra* note 5, at 475-76.

11. See, e.g., HOLLY DOREMUS ET AL., ENVIRONMENTAL POLICY LAW 161-62 (6th ed. 2012) (discussing rise of federal environmental statutes in the 1970s and environmental federalism generally); See also RICHARD J. LAZARUS, THE MAKING OF ENVIRONMENTAL LAW 48-54 (2006).

12. See Davies, *supra* note 5, at 500-01 (using nuclear power as an example of a situation where energy law failed to accurately assess the cost of the resource because the field did not consider the environmental costs associated with nuclear energy); Wildermuth, *supra* note 5, at 382 (explaining that “environmental law simply regulates the various steps in the energy production process, . . .” and in turn energy law factors the cost of those regulations into the process in the same way as it deals with any other production cost).

13. See, e.g., FRED BOSSELMAN ET AL., ENERGY, ECONOMICS AND THE ENVIRONMENT (3d ed. 2010) (including treatment of the environmental impacts of hydropower, oil and gas production, coal extraction, electricity generation, and climate change).

14. See, e.g., J.B. RUHL ET AL., THE PRACTICE AND POLICY OF ENVIRONMENTAL LAW (2d ed. 2010) (discussing climate change, environmental regulation of electric power plants, and regulation of transportation-related emissions).

rather than relying exclusively on expert agency regulators in the case of energy law and command-and-control directives in the case of environmental law.¹⁵ Examples of this transformation include the restructuring of electricity markets in many states on the energy law side and the creation of SO₂ trading markets for power plants on the environmental law side.

With regard to legal practice, many law firms now have combined environmental and energy law departments, law schools offer concentrations and programs in environmental and energy law, and state and federal bar associations include combined sections for environmental and energy law.¹⁶ Twenty years ago, these

15. See Davies, *supra* note 5, at 476-77.

16. See *Center for Law, Energy & the Environment*, UC BERKELEY SCH. OF LAW, available at <http://www.law.berkeley.edu/clee.htm> (Center for Law, Energy & the Environment); *Institute for Energy and the Environment*, VT. LAW SCH., available at http://www.vermontlaw.edu/Academics/Environmental_Law_Center/Institutes_and_Initiatives/Overview.htm, (last visited Nov. 18, 2012) (Institute for Energy and the Environment); *Environmental, Energy, and Law Use Law Program*, FLORIDA STATE UNIV. COLLEGE OF LAW, available at http://www.law.fsu.edu/academic_programs/environmental/index.html; *Center for Energy & Environmental Security*, UNIV. OF COLO. LAW SCH., available at <http://cees.colorado.edu/> (Center for Energy & Environmental Security); *Environmental and Energy Law Concentration*, UNIVERSITY OF MINN. LAW SCH., available at http://www.law.umn.edu/current/concentrations_environmentalandenergylaw.html (Environmental and Energy Law Concentration); *Energy, Environment and Land Use Program*, VANDERBILT LAW SCH., available at <http://law.vanderbilt.edu/academics/academic-programs/environmental-law/index.aspx> (Energy, Environment and Land Use Program); *Environmental & Energy Law Program*, GEORGE WASHINGTON UNIV. LAW SCH., available at <http://www.law.gwu.edu/ACADEMICS/FOCUSAREAS/ENVIRONMENTAL/Pages/Default.aspx> (Environmental & Energy Law Program); *Section of Environment, Energy, and Resources*, AM. BAR. ASSOC., available at http://www.americanbar.org/groups/environment_energy_resources.html, (last visited Nov. 3, 2012) (Section of Environment, Energy, and Resources); *Environment, Natural Resources & Energy Law Section*, VA. BAR ASSOC., available at <http://www.vba.org/displaycommon.cfm?an=1&subarticlenbr=18> (Environment, Natural Resources & Energy Law Section); *Environmental and Energy Law Section*, PA. BAR ASSOC., available at <http://www.pabar.org/public/sections/envco/> (Environmental and Energy Law Section); *Environment, Energy & Natural Resources Section*, FED. BAR ASSOC., available at <http://fedbar.org/Sections/Environment-Energy-Natural-Resources-Section.aspx> (Environment, Energy & Natural Resources Section); *Leading*

combinations would have been more difficult to find, with law firm departments, law school curricular areas, and bar associations providing mostly separate environmental and energy law groupings to reflect the very different types of work done at that time by lawyers within the two categories.

A major factor in bringing about this convergence between the two fields is climate change. Scientists have overwhelmingly concluded that human activity, particularly the increase in fossil fuel combustion, has accelerated climate change as a result of increased CO₂ and other GHG emissions.¹⁷ These emissions arise from electricity generation (34%), transportation (27%), industrial activities (20%), and agricultural, commercial, and residential activities (19%).¹⁸ Thus, in order to impact climate change, one of today's most pressing environmental problems, the focus must be on electricity generation and transportation, which make up the heart of

Environmental and Energy Lawyers, MARTEN LAW, available at <http://www.martenlaw.com/> (Practice groups solely related to energy and environmental law, such as alternative energy, climate change, water quality, rate making and power sales, etc.); *Energy, Environment and Resources*, DUANE MORRIS, available at <http://www.duanemorris.com/practices/energyenvironmentandresources.html>, (last visited Nov. 3, 2012) (Energy, Environment and Resources Practice); *Environment and Energy*, PEPPER HAMILTON LLP, available at http://www.pepperlaw.com/PracticeArea_preview.aspx?PracticeAreaKey=23 (Environment and Energy Practice Area); *Environment + Energy*, MORRISON FOERSTER, available at <http://www.mofo.com/environment—energy-services/> (Environment and Energy Services); *Environment, Energy and Resources*, CHAPMAN AND CUTLER LLP, available at <http://www.chapman.com/practices.php?&PracticeID=297> (Environment, Energy and Resources Practice Group); *Environment, Energy & Resources*, PERKINS COIE LLP, available at http://www.perkinscoie.com/environment_energy_resources/ (Environment, Energy and Resources Practice Group); *Environmental and Energy*, BOND, SCHOENECK & KING PLLC, available at <http://www.bsk.com/practices/9-environmental-energy> (Environmental and Energy Practice Group).

17. See *Massachusetts v. E.P.A.*, 549 U.S. 497, 521 (2007) (quoting MacCracken Decl. ¶ 5, Stdg.App. 207); Richard B. Alley et al., *Summary for Policymakers*, in IPCC FOURTH ASSESSMENT REPORT: CLIMATE CHANGE 2007, THE PHYSICAL SCIENCE BASIS, 1, 2–5, 10 (Susan Solomon et al. eds., 2007), available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf>.

18. ENVTL. PROT. AGENCY, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2010, at ES-15 (April 2012), available at <http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2012-ES.pdf>.

energy law. Part II details some of the key state initiatives designed to shape energy law and policy surrounding electricity generation and transportation for the purpose of meeting environmental law's climate change goals.

II. CLIMATE CHANGE INITIATIVES VIA STATE ENERGY POLICY

Major state climate change initiatives that fall squarely within the realm of traditional energy law include: (1) state renewable portfolio standards ("RPSs"); (2) California's Low Carbon Fuel Standard ("LCFS") regulations, which are part of California's landmark Global Warming Solutions Act; and (3) state laws limiting the use of new coal-fired power. I focus on these particular initiatives for two main reasons. First, they are, for the most part, innovative policy measures by states to limit GHG emissions that do not rely exclusively on traditional command-and-control regulation that has been the mainstay of environmental law for decades. Instead, these policies attempt to influence markets to achieve their goals in addition to placing limits on certain energy sources. Second, and not surprisingly, these measures have been subject to legal challenges, some of which argue specifically that states have gone too far in their efforts to achieve GHG emissions reductions by illegally interfering with interstate energy markets. Thus, these state policies show not only the upside potential of a convergence of environmental and energy law but also the risks associated with states using these tools to meet environmental protection goals.

A. *State Renewable Portfolio Standards*

In recent years, states have taken an active role in developing their own policies to promote renewable energy in the absence of a comprehensive federal policy in this area.¹⁹ Historically, very little

19. It should be noted, however, that the Obama Administration has been active in promoting the development of renewable power on federal lands and at federal buildings and facilities. See, e.g., Scott Streater, *Obama Administration Reaches 10,000-MW Project Threshold Three Years Early*, E&E NEWS (Oct. 9, 2012) (reporting on Obama Administration's approval of major renewable energy projects on federal lands); U.S. DEP'T OF ENERGY, *Solar Energy Development Programmatic EIS Information Center*, available at <http://solareis.anl.gov/index.cfm> (describing a joint program between the Office of Energy Efficiency and Renewable Energy (Dept. of Energy) and the Bureau of

electricity produced in the United States was generated from renewable energy sources. From 1989 to 2004, non-hydropower renewable energy generated just 2% to 2.5% of all electricity produced. Most of this electricity was generated from biomass combustion, municipal solid waste, and geothermal energy, with solar and wind comprising a small fraction. After 2005, however, growth in renewable energy – primarily wind power – increased significantly with non-hydropower renewable energy in 2011 generating over 5% of all electricity nationwide and well over 10% in several states.²⁰

As of March 2013, 29 states and the District of Columbia had enacted RPSs to encourage renewable energy development and use.²¹

Land Management (Dept. of the Interior) to, among other things, study the development of solar energy on BLM land); Press Release, Dept. of the Interior, Interior and Defense Departments Join Forces to Promote Renewable Energy on Federal Lands (Aug. 6, 2012), *available at* <http://www.doi.gov/news/pressreleases/Interior-and-Defense-Departments-Join-Forces-to-Promote-Renewable-Energy-on-Federal-Lands.cfm> (announcing a partnership between the Dept. of Def. and the Dept. of the Interior to install renewables on or near Dept. of Def. installations to “improve energy security” and reduce Dept. of Def. energy costs); U.S. DEP’T. OF ENERGY, DEVELOPING LARGE-SCALE RENEWABLE ENERGY PROJECTS AT FEDERAL FACILITIES USING PRIVATE CAPITAL: DRAFT 1 (2012), *available at* <http://www1.eere.energy.gov/femp/pdfs/largeregguide.pdf> (describing the Federal Energy Management Program’s efforts to develop renewable installations on federal sites with the help of private funds).

20. U.S. ENERGY INFO. ADMIN. (“EIA”), FREQUENTLY ASKED QUESTIONS: WHAT IS U.S. ELECTRICITY GENERATION BY ENERGY SOURCE?, June 2012, *available at* <http://www.eia.gov/tools/faqs/faq.cfm?id=427&t=3>; EIA, ELECTRIC POWER MONTHLY, July 2012, *available at* http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_1_1; Dan Seif, Rocky Mountain Institute, *Renewable Energy Supplies 5% US Electricity, Has Anyone Noticed?*, SUSTAINABLEBUSINESS.COM NEWS, June 29, 2012, *available at* <http://www.sustainablebusiness.com/index.cfm/go/news.display/id/23832> (citing EIA data); EIA, SHARES OF ELECTRICITY GENERATION FROM RENEWABLE ENERGY SOURCES UP IN MANY STATES, April 9, 2012, *available at* <http://www.eia.gov/todayinenergy/detail.cfm?id=5750>.

21. See *Renewable and Alternative Energy Portfolio Standards*, CTR. FOR CLIMATE & ENERGY SOLUTIONS, *available at* <http://www.c2es.org/sites/default/modules/usmap/pdf.php?file=5907>; DATABASE OF STATE INCENTIVES FOR RENEWABLES AND EFFICIENCY, RENEWABLE PORTFOLIO

States and local governments have also adopted feed-in tariffs, Renewable Energy Credit (“REC”) programs,²² tax incentives, and other related policies.²³ State RPSs usually require a specified percentage of electricity sales, measured in megawatt hours (“MWh”), or generation capacity, measured in MW, to be from renewable sources. Typically RPSs require that by 2020 or 2030, 15% to 25% of electricity sold in the state must be produced by a renewable energy source, with significant variation over which renewable technologies “count” and which electricity generators must participate.²⁴

States have varying reasons for enacting RPSs. Some are motivated primarily by economic development goals. RPSs can allow states with significant wind, solar, or other renewable resources to keep electricity prices down, export significant natural resources in regional electricity markets, and bring new economic opportunities to rural communities.²⁵ Other states, particularly those without

STANDARD POLICIES, March 2013, *available at* http://www.dsireusa.org/documents/summarymaps/RPS_map.pdf.

22. RECs allow utilities to fulfill their statutory obligations by purchasing the “environmental benefit” of renewable energy out of state. RECs are tradable certificates that create a separate market for the “environmental benefit” of renewable energy. RECs can be sold with the electricity (bundled) or separately (unbundled). *See* MIRIAM FISCHLEIN, *RENEWABLE ENERGY DEPLOYMENT IN THE ELECTRIC SECTOR: THREE ESSAYS ON POLICY DESIGN, SCOPE, AND OUTCOMES* 29 (Nov. 2010) (unpublished Ph.D. dissertation, University of Minnesota) (on file with author). *See also* Craig M. Kline, *Solar*, in *THE LAW OF CLEAN ENERGY: EFFICIENCY AND RENEWABLES* 391, 396-98 (Michael B. Gerrard, ed. 2011).

23. *See* DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, FINANCIAL INCENTIVES FOR RENEWABLE ENERGY, *available at* <http://www.dsireusa.org/summarytables/finre.cfm>.

24. FISCHLEIN, *supra* note 22, at 7, 21-22; *See* DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, RULES, REGULATIONS, AND POLICIES FOR RENEWABLE ENERGY, *available at* <http://www.dsireusa.org/summarytables/rpre.cfm>.

25. *See* Miriam Fischlein et al., *Policy Stakeholders and Deployment of Wind Power in the Sub-national Context: A Comparison of Four U.S. States*, 38 *ENERGY POLICY* 4429, 4432, 4437 (2010); CAROLYN ELEFANT & EDWARD A. HOLT, *THE COMMERCE CLAUSE AND IMPLICATIONS FOR STATE RENEWABLE PORTFOLIO STANDARD PROGRAMS* 3 (Clean Energy States Alliance, *State RPS Policy Report*, Mar. 2011); *see also* Elizabeth J. Wilson & Jennie C. Stephens, *Wind in a Carbon-Managed World: States, Resources, Policy, and Discourse*, 43 *ENVTL. SCI. & TECH.* 9063 (2009); Lincoln Davies, *State Renewable Portfolio Standards: Is There*

significant renewable resource potential, may be motivated by the desire to reduce energy prices through renewable imports from other states, while many are also motivated by environmental protection goals – more use of wind and solar power means less use of coal and other GHG-producing sources of electricity.²⁶ Many states, of course, are attempting to achieve both economic and environmental protection goals through RPSs.²⁷ This merging of environmental, economic, and energy-related goals behind many of the state RPSs illustrates the new emphasis on energy-related tools to meet environmental protection goals.

State RPSs, however, have not been immune from challenge. Some states require that all or a certain percentage of the renewable energy generated to meet the RPS be obtained from in-state generation sources, or at least give preference or additional credit to in-state sources.²⁸ Based on U.S. Supreme Court precedent, such in-state preferences may discriminate against interstate commerce in violation of the dormant Commerce Clause, and there have been legal challenges to RPSs in Colorado and Massachusetts on that basis.²⁹ The Commerce Clause of the U.S. Constitution grants

a 'Race' and Is It 'To the Top'?, 3 SAN DIEGO J. OF CLIMATE & ENERGY L. 3, 20-23 (2011-12).

26. *See id.*

27. *See* Lincoln Davies, *Power Forward: The Argument for a National RPS*, 42 CONN. L. REV. 1339, 1358-59 (2010); *see also* Davies, *supra* note 25, at 20-23.

28. *See* Jim Rossi, *Dormant Commerce Clause Challenges to State RPS Programs*, presentation, available at [http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&cad=rja&ved=0CCEQFjAA&url=http%3A%2F%2Fwww.mcombs.utexas.edu%2F~%2Fmedia%2Ffiles%2FMSB%2FCenters%2FEMIC%2FAEC-Presentations%2FAECrossi RPS-DCC-UT2012.ashx&ei=QQeIUIT2BMyhyAHU4oGoDQ&usq=AFQjCNGQ36QqT3GZAF7MaIImq_bgz4W_mg](http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&cad=rja&ved=0CCEQFjAA&url=http%3A%2F%2Fwww.mcombs.utexas.edu%2F~%2Fmedia%2Ffiles%2FMSB%2FCenters%2FEMIC%2FAEC-Presentations%2FAECrossi%20RPS-DCC-UT2012.ashx&ei=QQeIUIT2BMyhyAHU4oGoDQ&usq=AFQjCNGQ36QqT3GZAF7MaIImq_bgz4W_mg). (citing North Carolina, Colorado, Missouri, Illinois, Maryland, Michigan, Ohio, North Carolina, and California); Carolyn Elefant & Ed Holt, *Commerce Clause Issues Raised in State RPS*, Renewable Energy Markets 2010 (Oct. 21, 2010), available at http://www.renewableenergymarkets.com/docs/presentations/2010/Thurs_Implications%20of%20the%20Interstate%20Commerce%20Clause_Ed%20Holt.pdf (discussing states with policies favoring in-state resources).

29. *See* ELEFANT & HOLT, *supra* note 25, at 19-22 (describing litigation in Massachusetts); Amended Complaint, *Am. Tradition Inst. v. Colorado*, No. 1:11-cv-00859 (D. Colo., April 22, 2011), available at <http://www.atinstitute.org/wp-content/uploads/2011/04/ATI-RPS-Lawsuit-Amended-Complaint.pdf>. *See also*

Congress the power “[t]o regulate Commerce . . . among the several states.”³⁰ The Supreme Court has also interpreted this clause to include a negative or “dormant” provision that restricts states from engaging in economic protectionist behavior that discriminates or burdens interstate commerce.³¹

State laws that are subject to Commerce Clause challenge are either facially discriminatory or discriminatory in effect. State laws that interfere with or prevent the free flow of commerce based on point of origin or other geographic factors to benefit state interests are generally per se invalid unless the state can identify a non-protectionist and compelling state interest that cannot be served by any other means.³² State laws that are facially discriminatory include ones that block imports, tax out-of-state goods but not in-state goods, or otherwise give facial preference to in-state resources or goods at the expense of out-of-state resources or goods.³³ Examples of facially discriminatory laws involving energy include laws prohibiting hydroelectric power plants from selling power out-of-state before offering it for in-state sale, laws requiring power plants to burn a particular percentage of in-state coal, laws requiring all solid waste generated in a town to pass through a local processing center, laws imposing a hazardous waste disposal fee only on hazardous waste generated outside the state, or tax credits to users of in-state fuels.³⁴ Other state laws are facially neutral but may still violate the dormant Commerce Clause if the burden imposed on interstate commerce is “clearly excessive” in relation to the local benefits.³⁵ Local benefits such as energy conservation or protecting environmental health or

Steven Ferrey, *Follow the Money! Article I and Article IV Constitutional Barriers to Renewable Energy in the Future*, 17 VA. J. OF L. & TECH. 89, 106-09 (2012) (discussing Commerce Clause challenges to state RPSs).

30. U.S. CONST. art. I, § 8, cl. 3.

31. *New Energy Co. of Indiana v. Limbach*, 486 U.S. 269, 273-74 (1988); *Baldwin v. G.A.F. Seelig, Inc.*, 294 U.S. 511, 522 (1935).

32. *Maine v. Taylor*, 477 U.S. 131 (1986); *City of Philadelphia v. New Jersey*, 437 U.S. 617, 624 (1978).

33. See ELEFTANT & HOLT, *supra* note 25, at 5-7.

34. See, e.g., *C&A Carbone, Inc. v. Town of Clarkstown*, 511 U.S. 383 (1994); *New Energy Co of Indiana*, 486 U.S. at 273-74.; *New England Power Co., v. New Hampshire*, 455 U.S. 331 (1982); *Oklahoma v. Wyoming*, 502 U.S. 437 (1992); *Alliance for Clean Coal v. Miller*, 44 F.3d 591 (7th Cir. 1995); ELEFTANT & HOLT, *supra* note 25, at 5-6 (discussing cases).

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

safety can justify a burden under this balancing test, but attempting to subsidize in-state industries might not.³⁶

With regard to state RPSs, as noted earlier, some state laws require the use of in-state renewable resources or allow utilities to meet their RPS requirements more easily if they use in-state renewable resources by applying multipliers to those resources.³⁷ To the extent such laws expressly benefit in-state renewable energy development they may be facially discriminatory and more easily subject to challenge. Even those RPSs that do not give express preference to in-state resources may have a discriminatory effect if they give additional credits for certain renewable resources (such as poultry or swine waste in heavily agricultural states).³⁸ To the extent these laws do not contain specific geographical limits, however, they would likely be analyzed as neutral on their face and in effect. In such cases, the state's rationale of reducing emissions or preferring a particular industry that exists both in-state and out-of-state will more likely be deemed a legitimate regulation that advances state interests and thus justifies an incidental burden on interstate commerce.

While many of these state laws can be amended to be geographically neutral without significantly impacting the states' ability to encourage utilities and other power providers to use more renewable energy, the creation of these laws highlights the potential challenges of using energy policy to meet environmental goals. It is one thing to place additional pollution control requirements on

36. See ELEFANT & HOLT, *supra* note 25, at 7-8 (citing cases); Christine A. Klein, *The Environmental Commerce Clause*, 27 HARV. ENVTL. L. REV. 1, 4 (2003) (noting that the Supreme Court has been skeptical of state environmental justifications for state laws subject to dormant commerce clause challenges); See also *DaimlerChrysler Corp. v. Cuno*, 547 U.S. 332 (2006) (dismissing case by taxpayers on standing grounds regarding tax credits to attract business to the state and thus not reviewing decision by the U.S. Court of Appeals for the Sixth Circuit that the tax credit violated the dormant commerce clause).

37. See Rossi, *supra* note 28 (placing Colorado and Missouri in the category of states that use multipliers to encourage in-state resources); ELEFANT & HOLT, *supra* note 25, at 3 ("To capture the in-state benefits of RPS-stimulated renewable development, many state programs impose in-state location or delivery requirements as a condition of RPS eligibility."); Davies, *supra* note 27, at 1379 ("More than three-quarters of RPS states impose some kind of geographic limitation on generation eligibility.").

38. See ELEFANT & HOLT, *supra* note 25, at 14-15 (describing how Maryland and North Carolina incorporate the use of animal waste into their RPS).

utilities and other industrial facilities to limit CO₂ emissions or traditional, criteria pollutants. While such command-and-control regulations may be politically unpopular, they certainly are within the state's legal authority to protect human health, safety, and the environment as well as under the cooperative federalism model of the federal Clean Air Act. Attempting to influence energy markets to meet the same goals, however, even though it may be politically more popular, may require going beyond the state's clear jurisdiction over in-state health and safety, and draws states into creating policies that will necessarily impact large, regional electricity markets, over which both states and the federal government can claim jurisdiction.³⁹ This is not to say that states should not make these efforts; indeed, this focus on energy policy is critical to combating climate change as well as developing forward-looking energy policy. It illustrates, however, that to accomplish these goals, states have had to go beyond their traditional jurisdiction under federal and state air, water, and waste laws to address climate change.

B. California's Low Carbon Fuel Standard Regulations

Another example of state policy that uses energy law tools to meet environmental protection goals are California's Low Carbon Fuel Standard ("LCFS") regulations. As part of California's Global Warming Solutions Act, also known as AB 32, the California Air Resources Board ("CARB") developed the LCFS regulations, effective April 2010.⁴⁰ The LCFS regulations require oil refiners and distributors to guarantee that the mix of transportation fuels they sell in California will help lower GHG emissions by reducing the carbon

39. JOSEPH P. TOMAIN & RICHARD D. CUDAHY, *ENERGY LAW IN A NUTSHELL* 374-76 (2d ed. 2011) (discussing respective jurisdiction of federal government and states in the area of electricity regulation); Alexandra B. Klass, *Takings and Transmission*, 91 N.C. L. REV. (forthcoming 2013) (discussing federal and state authority for transmission siting and electricity sales). *See also* *New York v. FERC*, 535 U.S. 1, 5-8 (2002) (describing state and federal regulatory authority over electricity sales and transmission); *Pac. Gas & Elec. v. State Energy Res. Conservation & Dev. Comm'n*, 461 U.S. 190 (1983) (discussing traditional jurisdiction of states and their public utility commissions to make decisions regarding power generation and sales within the state).

40. Notice of Approval of Regulatory Action, Cal. Office of Administrative Law (Apr. 15, 2010) OAL File No. 2010-0304-01 S, *available at* <http://www.arb.ca.gov/regact/2009/lcfs09/oalapplcfs.pdf>.

intensity of their fuels by at least 10% by 2020.⁴¹ The LCFS regulations establish a baseline, average carbon intensity for all vehicular fuels consumed in California. They then require each supplier of vehicular transportation fuels to reduce its average carbon intensity from that baseline by set amounts each year between 2011 and 2020.⁴² The LCFS regulations also allow suppliers to generate credits for exceeding the reduction required that year, creating the opportunity for a trading market in credits among suppliers nationwide.⁴³ The purpose of the LCFS regulations is to enable California to meet the GHG emission targets established in AB 32 as well as to encourage production of low-carbon fuels.⁴⁴

Traditionally, a fuel is analyzed in terms of the emissions released as the fuel is used, such as when natural gas is burned in a power plant or gasoline is combusted in a vehicle. But the California regulations use a “lifecycle” analysis of fuels to determine their carbon intensity.⁴⁵ A lifecycle analysis for carbon emissions for fuels includes the emissions from the production or consumption of the fuel in vehicles, the emissions associated with transporting the fuel to the source of consumption, the emissions associated with producing the fuel, and the emissions associated with changing the land use to produce the feedstock.⁴⁶

In the case of ethanol, for instance, while all ethanol emits similar amounts of CO₂ at the time of combustion, the lifecycle carbon emissions associated with the use of ethanol from different production processes can vary substantially. Factors affecting emissions include the feedstock used (corn, sugar, etc.), the energy source used to convert the feedstock into ethanol (natural gas, wind,

41. CAL. AIR RES. BD., ESTABLISHING NEW FUEL PATHWAYS UNDER THE CALIFORNIA LOW CARBON FUEL STANDARD: PROCEDURES AND GUIDELINES FOR REGULATED PARTIES AND FUEL PROVIDERS 1 (Aug. 2, 2010), available at <http://www.arb.ca.gov/fuels/lcfs/122310-new-pathways-guid.pdf>.

42. *Id.*

43. *Low Carbon Fuel Standard: Reducing Global Warming Pollution from California's Transportation Fuels*, UNION OF CONCERNED SCIENTISTS (Feb. 2009), available at http://www.ucsusa.org/assets/documents/clean_vehicles/ca-low-carbon-fuel-standard-fact-sheet_final.pdf.

44. *Id.*

45. CAL. AIR RES. BD., LOW CARBON FUEL STANDARD: QUESTION AND ANSWER GUIDANCE DOCUMENT (VERSION 1.0) 2 (Jun. 10, 2011), available at [http://www.arb.ca.gov/fuels/lcfs/LCFS_Guidance_\(Final_v.1.0\).pdf](http://www.arb.ca.gov/fuels/lcfs/LCFS_Guidance_(Final_v.1.0).pdf).

46. *Id.*

coal), how far the feedstock has to travel to production facilities, how far the ethanol has to travel to be used in vehicles in California, and the type of transportation (trucks, train, etc.) used for those trips. Thus, corn, which is grown primarily in the Midwest, has only a short distance to travel to ethanol plants in the Midwest, which helps Midwest ethanol on that metric as compared to California ethanol plants, which must transport the Midwestern corn a much longer distance before it can be made into ethanol. By contrast, the ethanol itself must travel a longer distance from the Midwest to be used in California vehicles, thus favoring California ethanol plants on that metric.

In December 2011, in response to a lawsuit brought by ethanol producers in the Midwest, a federal district court in California enjoined implementation of the LCFS regulations, finding that they violate the dormant Commerce Clause because they discriminate against out-of-state energy producers and attempt to regulate activities outside of California's borders.⁴⁷ The court also found that the regulations discriminate against out-of-state and foreign crude oil producers and that CARB had failed to consider alternative strategies for reducing GHG emissions.⁴⁸ The injunction the court issued is currently stayed pending resolution of the appeal before the U.S. Court of Appeals for the Ninth Circuit.⁴⁹ For its part, the state argues that the LCFS regulations do not discriminate, but instead are intended to create incentives for low-carbon alternatives to petroleum, and not for the purpose of benefiting California-produced fuels. According to the state, the LCFS regulations do not discriminate based on geography but instead use the uniform metric of carbon intensity that is directly linked to legitimate policy goals.⁵⁰

Like the challenges to state RPSs, the legal challenge to California's LCFS regulations highlights the difficulties states face in

47. See *Rocky Mountain Farmers Union v. Goldstene*, 843 F. Supp. 2d 1071, 1079 (E.D. Cal. 2011).

48. See *id.* at 1093–94.

49. *Energy Law Alert: California Permitted to Enforce Low Carbon Fuel Standard Pending Appeal*, STOEL RIVES LLP (Apr. 30, 2012), available at <http://www.stoel.com/showalert.aspx?Show=9482>.

50. See David R. Baker, *Gas Prices Will Jump Again, Critics Say*, S.F. CHRON., (Oct. 12, 2012), available at <http://www.sfgate.com/business/article/Gas-prices-will-jump-again-critics-say-3944166.php> (quoting a CARB spokesman as saying that some new, efficient Midwestern ethanol plants meet the state's standard).

using energy market tools to address climate change. With traditional environmental, command-and-control regulation, states can target air emissions, water pollution, and land use practices of facilities located wholly within state borders and often achieve meaningful progress.⁵¹ These approaches, however, are of limited effect in the area of climate change because of its national and international scope. In order to meaningfully reduce the carbon intensity of transportation fuels California must regulate the use of fuels in the state, which necessarily impacts decisions fuel producers in other states will make. Thus, the national and regional energy markets that have existed for decades provide both an attractive forum for state policy innovation and a potential legal barrier as states are accused of exceeding their jurisdictional authority.⁵²

C. *Minnesota's Next Generation Energy Act*

In 2007, the Minnesota legislature enacted the Next Generation Energy Act ("NGEA"). The NGEA includes provisions that encourage the increased use of renewable energy and energy conservation, and attempt to address climate change by limiting GHG emissions. One provision of the NGEA prohibits Minnesota utilities from building new coal-generated power plants or entering into new long-term contracts to buy coal-generated electricity from in-state or out-of-state sources unless they offset their new carbon emissions with reductions elsewhere.⁵³

In November 2011, North Dakota, along with power producers and lignite coal producers in North Dakota, sued Minnesota contending that the NGEA unconstitutionally restricts interstate commerce and is

51. See generally John R. Nolon, *Shifting Paradigms Transform Environmental and Land Use Law: The Emergence of the Law of Sustainable Development*, 24 FORDHAM ENVTL. L. REV. 242 (2013) (noting that the last two decades demonstrate the wisdom of enabling, encouraging, and guiding local governments to address environmental problems, such as climate change, through zoning, land use, home rule, and police power authority).

52. Ann E. Carlson's contribution to the 20th Anniversary book identifies California's energy law tools to show how far-reaching and complicated the state's regulatory efforts are, as well as the magnitude of the emissions goals. See generally Ann E. Carlson, *Regulatory Capacity and State Environmental Leadership: California's Climate Policy*, 24 FORDHAM ENVTL. L. REV. 63 (2013).

53. MINN. STAT. § 216H.03 (3), (4) (2012).

preempted under the Clean Air Act and the Federal Power Act.⁵⁴ The parties agreed that discovery was necessary on the dormant Commerce Clause claim but Minnesota moved for judgment on the pleadings on the Clean Air Act and Federal Power Act preemption claims. In September 2012, the federal district court in Minnesota denied the motion, holding that discovery was necessary on a number of topics, including how coal generators in North Dakota and other states outside Minnesota have complied with the NGEA since its inception; whether it is possible to determine where electricity travels once it enters the grid; whether the NGEA would require the regional transmission operator, MISO, to reconfigure the regional transmission grid to ensure carbon emissions do not enter Minnesota without required offsets; and whether the NGEA's ban on entering into new, long-term power purchase agreements interferes with FERC's authority to set wholesale rates and regulate agreements.⁵⁵

The court's focus for discovery highlights how a state policy to limit in-state carbon emissions can have wide-ranging effects on the entire region, including energy markets, transmission grids,⁵⁶ and federal and regional regulation of those matters. Notably, under the Clean Air Act at least, states have significant authority to regulate to protect health, safety, and the environment, and preemption is limited to narrow and defined areas.⁵⁷ Likewise, because the NGEA treats in-state and out-of-state coal generation alike, there are good arguments that the law does not run afoul of the dormant Commerce Clause. Minnesota argues that electric generation sources, as well as environmental regulation, are "areas of traditional state authority,"

54. See *North Dakota v. Swanson*, No. 11-3232 SRN/SER, 2012 WL 4479246 (D. Minn. Sept. 30, 2012).

55. *Id.*

56. For a discussion of the relationship between state regulation of transmission line siting and federal policy governing the electricity grid, see Alexandra B. Klass & Elizabeth J. Wilson, *Interstate Transmission Challenges for Renewable Energy: A Federalism Mismatch*, 65 VAND. L. REV. 1801 (2012).

57. See ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 117 (6th ed. 2009) (discussing how federal preemption of state law is used sparingly in environmental law, including in the Clean Air Act); Alexandra B. Klass, *State Innovation and Preemption: Lessons from State Climate Change Efforts*, 41 LOY. L.A. L. REV. 1653, 1682-84 (2008) (same).

and therefore are not preempted by federal law.⁵⁸ Plaintiffs, for their part, claim that Minnesota is attempting to regulate areas over which it cannot exercise authority: resources located in North Dakota and the use of those resources to generate electricity in North Dakota.⁵⁹ How the court will ultimately rule on these arguments remains to be seen. What is important though, for purposes of this essay, is that the NGEA is another example of states using the best tools they have to address climate change, which cannot succeed without creating new frameworks for energy production and regulation.

D. Environmental Policy, Energy Policy, and the Commerce Clause

Commerce Clause challenges to environmental protection initiatives are nothing new. In many ways, however, the recent Commerce Clause challenges to state efforts to address climate change are the mirror image of the Commerce Clause challenges to federal environmental law policies of the last twenty years. With a few exceptions relating to water extractions and waste collection, most Commerce Clause challenges in the environmental law arena over the past few decades have been to Congress's authority to legislate on a federal level.⁶⁰ In each case, the issue was whether the subject of regulation was sufficiently connected to interstate commerce. Federal courts have heard numerous challenges to Congress's power to regulate the environmental impacts of surface mining, intrastate wetlands, the remediation of hazardous substance contamination, and the protection of endangered species on private lands.⁶¹ For the most part, the lower federal courts have upheld

58. See Defendant's Memorandum of Law in Support of Motion for Partial Judgment on the Pleadings at 5–6, *North Dakota v. Swanson*, No. 11-3232 (No. 15).

59. See Plaintiff's Memorandum of Law in Opposition to Defendants' Motion for Partial Judgment on the Pleadings at 27, *North Dakota v. Swanson*, No. 11-3232 (No. 15).

60. See Klein, *supra* note 36, at 4 (discussing affirmative Commerce Clause challenges to federal environmental legislation and dormant Commerce Clause challenges to limited categories of state environmental legislation).

61. See *id.*; see also *Solid Waste Agency of N. Cook County v. U.S. Army Corps of Eng'rs*, 531 U.S. 159 (2001) (finding that isolated wetlands that served as a habitat for migratory birds were not within the scope of "navigable waters" regulated under the Clean Water Act, and declining to reach the question of whether Congress had the power to regulate such wetlands under the Commerce Clause); *Rapanos v. United States*, 547 U.S. 715 (2006) (reaching similar result

Congress's affirmative power to regulate in all of these areas under the Commerce Clause, and the Supreme Court has declined to review these cases or has interpreted the federal statute at issue to avoid the constitutional question.⁶² Today, by contrast, it is the states that are attempting to address climate change, which requires impacting regional, national, and sometimes even international energy structures.⁶³ These Commerce Clause challenges to state climate

with regard to wetlands neither clearly adjacent to nor clearly isolated from navigable waters); *Hodel v. Virginia Surface Mining & Reclamation Ass'n, Inc.*, 452 U.S. 264 (1981) (rejecting claim that federal Surface Mining Control and Reclamation Act of 1977 violated the Fifth and Tenth Amendments and was outside of Congress's power to regulate under the Commerce Clause); *Gibbs v. Babbitt*, 214 F.3d 483 (4th Cir. 2000) (finding the U.S. Fish & Wildlife Service regulations limiting red wolf takings, implemented under the Endangered Species Act, were within Congress's power under the Commerce Clause); *United States v. Olin Corp.*, 107 F.3d 1506 (11th Cir. 1997) (rejecting Commerce Clause challenge to Comprehensive Environmental Response, Compensation, and Liability Act); *Nat'l Ass'n of Home Builders v. Babbitt*, 130 F.3d 1041 (D.C. Cir. 1997) (rejecting Commerce Clause challenge to Endangered Species Act).

62. *Id.* But see Klein, *supra* note 36, at 4 (discussing how in environmental protection cases, the Supreme Court has limited the scope of the affirmative Commerce Clause while expanding the scope of the dormant Commerce Clause to limit both federal and state environmental protection regulation).

63. Another current example of state-federal tensions in environmental and energy law is in the regulation of hydraulic fracturing for oil and gas. With the explosion of new, domestic oil and gas resources resulting from technological developments in hydraulic fracturing, some states have limited new regulation in the name of supporting resource development while others, such as New York and Vermont, have banned the practice or placed moratoria on the practice to allow further study of environmental impacts. Many states also oppose any new federal environmental regulation in this area, arguing that the states are better positioned to address the issue. See, e.g., Michael L. Krancer, Secy., Penn. Dept. of Env'tl. Protection, *Hydraulic Fracturing: Facts, History, Context and Perspective*, American Bar Assn., Section on Environment, Energy, and Resources, 20th Section Fall Meeting (Oct. 11, 2012), available at <http://abaseer20fm.conferencespot.org/38-Krancer/1>; Jim Malewitz, *States Scramble to Regulate Fracking*, PEW CENTER ON THE STATES (May 9, 2012), available at <http://www.pewstates.org/projects/stateline/headlines/states-scramble-to-regulate-fracking-85899385716>; John M. Broder, *New Proposal on Fracking Gives Ground to Industry*, N.Y. TIMES (May 4, 2012), available at http://www.nytimes.com/2012/05/05/us/new-fracking-rule-is-issued-by-obama-administration.html?_r=0; Selam Gebrekidan, *Oil Rig Count Drops Sharply in North Dakota: Regulator*, CHICAGO TRIBUNE (Sept. 19, 2012), available at <http://articles.chicagotribune.com/2012-09-19/classified/sns-rt-us-oil-production->

change policy are thus quite different from many of the Commerce Clause challenges of the past twenty years, which sought to limit Congress's power, not state power, to comprehensively address environmental protection goals.⁶⁴ Clearly the goals of both types of legal challenges are the same, namely, to limit government regulation of industry. Today's dormant Commerce Clause challenges to state climate change policy, however, highlight the legal and practical difficulties states face in achieving their goals. If these strategies succeed, states may need to seek alternative, or additional, means to combat climate change. These strategies could include targeted federal legislation allowing states to "violate" the dormant Commerce Clause, groups of states working together to minimize discrimination against interstate commerce, formal interstate compacts, or comprehensive federal energy legislation that avoids dormant Commerce Clause problems altogether.

In the absence of federal legislation addressing both climate change and energy's impact on climate change, it will continue to be left to the states to attempt to influence energy policy as best they can. The Commerce Clause challenges to states' most recent efforts in this area, however, highlight both the difficulty of the state efforts to use energy policy to address climate change as well as the absolute need for states to do exactly that.

III. OBSERVATIONS AND CONCLUSIONS

Looking back on the development of environmental law over the past 20 years, there are numerous stories to tell, many of which are told in other essays in the 20th Anniversary book. The story in this

north-dakotabre88i1bv-20120919_1_rig-count-fracking-regulations-lynn-helms; Gov. Matthew H. Mead, *Hydro-fracking Regulations Should be Left to States*, Commentary, WASHINGTON TIMES (Sept. 17, 2012), available at <http://p.washingtontimes.com/news/2012/sep/17/hydro-fracking-regulations-should-be-left-to-state/>; Danny Hakim, *Shift by Cuomo on Gas Drilling Prompts Both Anger and Praise*, N.Y. TIMES, Sept. 30, 2012, available at <http://www.nytimes.com/2012/10/01/nyregion/with-new-delays-a-growing-sense-that-gov-andrew-cuomo-will-not-approve-gas-drilling.html?pagewanted=all>.

64. Of course, one can argue that both sets of legal challenges are in fact quite similar; both today's dormant Commerce Clause challenges to state energy policy and the longstanding affirmative Commerce Clause challenges to federal environmental legislation are efforts to limit government regulation of industry as much as possible. See Klein, *supra* note 36, at 4, 23.

essay, however, is one that focuses not only on developments in environmental law, but on developments in the formerly unrelated but now more closely-related field of energy law. Even in considering the relationship between the fields of environmental and energy law, there are multiple stories to tell. There is the story told by Professor Davies and Professor Wildermuth in articles written very recently, lamenting the continuing divide between the two fields and the need for convergence.⁶⁵ Their story, which focuses on federal environmental and energy policy, is valid. Indeed, there remains little linkage between federal environmental and energy policy, with Congress failing to undertake any significant policy initiatives in either field, much less linking the two, even while EPA has made some strides by regulating CO₂ emissions from power plants and industrial facilities under the Clean Air Act.

When one turns to the state level as well as to legal practice and academia, however, the story is different. Innovative state policies in the areas of RPSs, low carbon fuels, and limits on coal-fired power have made great strides in creating strong linkages between environmental and energy law in efforts to address climate change. Not surprisingly, law firms, bar associations, and law schools have responded rapidly to these developments, creating new practice groups, bar sections, and academic concentrations to educate today's lawyers in these more closely linked fields.

The question for the next 20 years, then, is whether the federal government will follow suit. This essay highlights only some of the challenges states face in developing combined energy and environmental law policies, as well as the practical limits of states attempting to address a problem of national and international scope. Without federal involvement in this area, it is likely that state success will remain limited at best. That does not mean, however, that it is not worth the effort. Each state policy initiative that attempts to address climate change, including energy policy initiatives that extend beyond state borders, provides another experiment in the "laboratories of democracy"⁶⁶ that can guide future state and federal

65. See Davies, *supra* note 5, at 475, 477, 490; Wildermuth, *supra* note 5, at 380-81.

66. See *New State Ice v. Liebmann Co.*, 285 U.S. 262, 311, 387 (1932) (Brandeis, J., dissenting) (stating that one of the core values of our federalist system of government is that it encourages innovation because "a single courageous state may, if its citizens choose, serve as a laboratory; and try novel

initiatives. Thus, my hope for the next 20 years is that states continue to attempt to bridge the environmental/energy law divide and that the federal government soon follows suit.

social and economic experiments without risk to the rest of the country.”); Klass & Wilson, *supra* note 56, at 1813 (discussing theories of federalism and states acting as laboratories of democracy).