

TOWARD GREENER FERC REGULATION OF THE POWER INDUSTRY

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America's electricity industry is at the heart of some of the nation's and world's biggest environmental challenges, including climate change. Yet the Federal Energy Regulatory Commission ("FERC"), which has regulatory jurisdiction over wholesale sales and transmission of electricity in interstate commerce and is charged with ensuring that rates and other aspects of the industry are "just and reasonable," has an official policy of excluding environmental considerations from its regulation of the industry. This Article traces the evolution of this policy and argues that it is time for a new and better approach—one that integrates economic and environmental regulation of the industry, helps the United States achieve a clean energy future, and reduces excessive environmental impacts.

This Article explores the possibility of such an approach under the Federal Power Act ("FPA"), which provides FERC's mandate. In doing so, it addresses FERC's reasoning for its current policy and finds these reasons unpersuasive as a matter of law and policy. Contrary to FERC's position, it is plausible to view the FPA alongside other federal laws as being silent or ambiguous about FERC's environmental authority, thus permitting an environmentally inclusive approach within reasonable constraints. This reading of the FPA is reinforced by a host of policy considerations: the urgent need to address the U.S. electricity industry's significant contribution to climate change; the inadequacy of and continuing uncertainty surrounding existing regulatory efforts on this front; FERC's expertise in aspects of the electricity industry important to effective design and implementation of regulatory solutions; the unique nature of greenhouse gas emissions as pollutants and the feasibility of FERC regulation of carbon emissions in particular; and the glaring problems with our schizophrenic approach to energy regulation, in which environmental regulation and traditional utility regulation often undermine each other, creating inefficiencies.

This Article offers a number of concrete examples of the types of progressive industry reforms that would be possible if FERC adopted an environmentally inclusive approach, while also acknowledging and exploring the limits and challenges of this approach. On balance, the rewards seem to far outweigh the risks. Incorporating environmental considerations would allow FERC to make better informed decisions about how to maximize social welfare in areas such as transmission planning and organized electricity markets, and could create possibilities for productive collaborations with other regulatory authorities, including the Environmental Protection Agency, to guide the nation toward smarter energy policy.

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** James T. B. Tripp is senior counsel at EDF, which has participated in some of the regulatory proceedings described in this Article. The authors would like to thank Richard Lazarus, Sharon Jacobs, Elizabeth Stein, and John Moore for their extremely helpful feedback and ideas. We would also like to thank Will Sears and Jesse Glickenhau for their research and ideas that helped stimulate some of the thinking behind this Article. Thank you to the *Harvard Environmental Law Review* editing staff for their hard work and editing contributions.

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INTRODUCTION

Suppose an electric utility is looking to buy some electricity to resell to its customers. The utility needs to buy one megawatt-hour of energy, and it can buy from either of two power plants—one a coal plant, one a wind farm. The coal plant will sell the energy for fifty dollars. The wind farm will sell the energy for sixty dollars. If the coal plant generates the energy, it will emit one metric ton of carbon dioxide (“CO₂”). These emissions, with their contribution to global warming and its effects on agricultural productivity, sea levels, storm frequency and intensity, human health, industry, and ecosystems,¹ will end up costing society forty dollars when all is said and done. If the wind farm generates the energy, it will produce no emissions.² The utility does not have to pay the cost of the emissions. The utility buys its megawatt-hour of electricity from the coal plant for fifty dollars. The total cost to society of the transaction is ninety dollars: the fifty dollars the utility paid, plus the forty dollars society will pay, down the road, for the emissions. Had the utility bought from the wind farm, the total cost to society would have been just sixty dollars.

¹ See Thomas F. Stocker et al., *Technical Summary*, in INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2013—THE PHYSICAL SCIENCE BASIS: CONTRIBUTION OF WORKING GROUP I TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 89–113 (2013) [hereinafter IPCC 2013], available at <http://perma.cc/WY89-X9DN> (discussing predicted long-term effects of climate change on sea levels and storm patterns); M.L. Parry et al., *Summary for Policymakers*, in CLIMATE CHANGE 2007—IMPACTS, ADAPTATION AND VULNERABILITY: CONTRIBUTION OF WORKING GROUP II TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 11–12 (2007), available at <http://perma.cc/ZC68-FMXX> (discussing predicted effects on agricultural productivity, human health, industry, and ecosystems).

² For simplicity's sake, we do not consider full lifecycle emissions in this example. For a description of lifecycle analysis, see *infra* note 35.

This scenario represents a simplified but instructive abstraction of how many electricity sales in the United States take place. Now pretend you are a regulator presiding over this transaction, with a mandate to regulate in the public interest and to ensure that wholesale electricity rates are “just and reasonable.”³ Did this transaction live up to this standard? The answer of the Federal Energy Regulatory Commission (“FERC”), the regulator with this authority and mandate in the United States, is essentially “yes.” In fact, FERC’s policy is to ignore environmental considerations in its regulation of electricity rates entirely.

Why would FERC reach these conclusions? How did its approach to regulation evolve to arrive at this position? Is FERC’s approach, as a matter of law and policy, the right approach at a time when energy and environmental problems are thoroughly interwoven, or would it make more sense for FERC to take into account the cost to society of these emissions? These questions are the topic of this Article.

Significant gaps exist in U.S. environmental regulation of the electricity industry, causing society to bear excessive environmental costs. Perhaps the most notable example is the lack of comprehensive regulation of greenhouse gas (“GHG”) emissions from electricity generation. Electricity generation is responsible for about one third of U.S. GHG emissions.⁴ Yet comprehensive regulation that would reduce the costs of these emissions to what welfare economics would call efficient (welfare-maximizing) levels is lacking. More broadly, a divide between environmental regulation and “energy” or “economic” or electric-utility regulation causes major environmental issues related to the electricity industry to fall through the cracks.⁵

FERC has broad regulatory power over the nation’s electricity industry, including over interstate electricity transmission and wholesale electricity sales. The Federal Power Act⁶ (“FPA”) declares that the industry is “affected with a public interest,”⁷ and sections 205 and 206 of the FPA charge FERC with ensuring that rates, charges, rules, regulations, and practices related to the transmission and wholesale sale of electricity in interstate commerce are “just and reasonable.”⁸ Since 1935, FERC has regulated transmission rates and wholesale sales by “public utilities”⁹ under these provisions, and in recent decades

³ We have also simplified the nature of FERC’s regulatory mandate for the sake of this thought exercise. As this Article will explore, FERC’s mandate is more complex than this, and FERC has relied in part on other provisions of its organic statute to reach its current policy position.

⁴ EPA, DRAFT INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990–2012 ES-22 (2014) [hereinafter GHG INVENTORY], available at <http://perma.cc/NJA8-3RBW>.

⁵ See generally Lincoln L. Davies, *Alternative Energy and the Energy-Environment Disconnect*, 46 IDAHO L. REV. 473 (2010).

⁶ 16 U.S.C. § 791-828(c) (2012).

⁷ 16 U.S.C. § 824(a) (2012).

⁸ 16 U.S.C. §§ 824d(a), 824e(a) (2012). For brevity’s sake, we will often refer to FERC’s regulation under sections 205 and 206 as its “rate regulation” throughout this Article.

⁹ The FPA gives FERC jurisdiction over “public utilities,” meaning, roughly, investor-owned utilities, since the FPA exempts government-owned utilities and rural electric cooperatives from FERC jurisdiction. 16 U.S.C. § 824(f).

has invoked the provisions to promulgate far-reaching regulations that have fundamentally reshaped the industry.

Yet FERC has never considered environmental issues to be part of this “just and reasonable” rate calculus. In fact, FERC has on several occasions explicitly rejected arguments that it should consider environmental costs as part of its rate oversight,¹⁰ and the federal courts have reached similar conclusions.¹¹ FERC has maintained this position even in the face of a decades-long overall federal regulatory trend toward increasing consideration of environmental problems, particularly under the National Environmental Policy Act (“NEPA”)¹² and executive orders requiring agencies (at least executive agencies) to perform cost-benefit analyses of their regulations.¹³ These developments—including, most recently, increasing agency attention to the effects of agency action or inaction on GHG emissions—make FERC’s position seem anachronistic and anomalous, especially given the agency’s central role in overseeing the nation’s heaviest-polluting industry. Moreover, a recent trend at FERC toward promulgating industry reforms with positive environmental effects, as well as statements by a recent FERC chairman, during his tenure, calling climate change a “priority,”¹⁴ suggest that FERC’s official policy is at odds with its aims, and that explicitly embracing environmental considerations may help the agency advance its own goals.

This Article argues for a rethinking of the way FERC approaches its rate regulation of transmission and wholesale electricity sales. It argues that FERC’s longstanding position of ignoring environmental factors in this context is overdue for change, especially with respect to GHG emissions and CO₂ emissions in particular, and explores the possibility of reading the language of the FPA to allow consideration of such factors. It addresses FERC’s justifications for ignoring environmental considerations and concludes that, although some of FERC’s concerns have merit, these justifications are unpersuasive, and that there are compelling reasons for FERC to take a new approach. These reasons include FERC’s integral role and expertise in shaping and overseeing elements of the electricity industry, such as electricity markets and transmission, that will be crucial to the nation’s ability to realize a clean energy future; the desirability of bridging the environmental-energy regulatory divide; the fact that recent FERC actions under sections 205 and 206 suggest the agency is aiming to promote clean electricity and related environmental goals, and thus may be seeking to accomplish indirectly what it could accomplish more directly, transparently, and efficiently; and the urgent need to address the electricity industry’s contribution to climate change.

¹⁰ *E.g.*, PSI Energy, Inc., 55 FERC ¶ 61,254, 61,811 (1991); Monongahela Power Co., 39 FERC ¶ 61,350, 62,096 (1987).

¹¹ *See* Grand Council of Crees (of Quebec) v. FERC, 198 F.3d 950, 957 (D.C. Cir. 2000).

¹² 42 U.S.C. §§ 4332–4345 (2006).

¹³ *See* Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (Oct. 4, 1993) [hereinafter Executive Order 12,866].

¹⁴ Steven Mufson, *Energy Commission Chief Favors Aggressive Action on Climate Change*, WASH. POST, Mar. 21, 2009, <http://perma.cc/M2YC-ZJAL>.

Surprisingly little has been written focusing on FERC's environmental policy with respect to its regulation of the electricity industry.¹⁵ No article has systematically traced the evolution of FERC's exclusion of environmental considerations from its rate regulation or thoroughly assessed FERC's justifications for its approach. Nor has any article thoroughly explored the possibility of interpreting the FPA to require or allow FERC to consider environmental factors.¹⁶ Although, as this Article discusses, various groups and entities argued that FERC should consider certain environmental factors in the course of FERC proceedings and litigation in the 1980s and 1990s,¹⁷ this Article offers the first sustained, comprehensive exploration of the possibility, and will attempt to grapple with many of the complex legal and policy issues raised in the process. Moreover, the Article draws on important developments since the 1990s that are relevant to the question of whether it is time for FERC to take a different approach.

Part I of the Article briefly examines one major environmental problem relating to the electricity industry, summarizing the social costs of GHG emissions and CO₂ emissions in particular, the contribution of U.S. electricity generation to these emissions, and how existing regulations at the federal and state levels collectively fall far short of addressing the problem. Part II provides a brief overview of the FPA, the history and current state of the electricity industry, and FERC's role in shaping and regulating the industry. Part III explores the evolution of FERC's position of excluding environmental considerations from its rate regulation. Part IV sets forth an argument, under current administrative law doctrine, in favor of interpreting the FPA to authorize FERC to take environmental considerations into account (triggering an obligation on the part of the agency, under NEPA, to consider the environmental consequences of its actions).

The basics of the argument are as follows: Contrary to FERC's position, Congress has not clearly stated whether FERC may consider environmental factors in its rate regulation. Given this ambiguity, it would be permissible for FERC to change its policy, and to interpret the Act as allowing it to consider environmental factors—a policy change warranted by the major social benefits that could result from bridging the environmental-energy regulatory divide. If

¹⁵ Significant articles on the subject include Jeremy Knee, *Rational Electricity Regulation: Environmental Impacts and the "Public Interest,"* 113 W. VA. L. REV. 739 (2011) and Jason Pinney, *The Federal Energy Regulatory Commission and Environmental Justice: Do the National Environmental Policy Act and the Clean Air Act Offer A Better Way?*, 30 B.C. ENVTL. AFF. L. REV. 353 (2003).

¹⁶ Closest in this regard is Knee, *supra* note 15, which compellingly argues that FERC and other electric utility regulators should consider certain environmental factors under the "public interest" language common to their statutory mandates, and that courts should scrutinize their failure to do so under the hard look or arbitrary and capricious doctrine. *Id.* at 744. Knee's driving thesis is that the principles that have informed electric utility regulators' conception of their "public interest" mandates, as well as sound economics, support consideration of environmental factors to a limited extent. *Id.* at 765–88. In this Article, we examine the FPA's public interest language as well as other crucial provisions of the FPA and the relationship of FERC and the FPA to the Environmental Protection Agency and other environmental laws.

¹⁷ See *infra* Part III.B.

the FPA were interpreted to give FERC this authority, the reasoning behind FERC's categorical exclusion of its rate regulation from NEPA would no longer hold; the Commission would be required to consider the environmental consequences of certain of its actions. Beyond that, FERC would have license to incorporate environmental costs and benefits into its substantive regulation—although we discuss how FERC should be constrained by the existence of federal statutes giving the Environmental Protection Agency (“EPA”) and other agencies environmental regulatory authority.

Part V offers several concrete proposals showing how FERC could put this policy into practice—proposals that could lower the overall social cost of America's electricity consumption, and that could spur significant and much-needed investment in cleaner electricity generation and in energy efficiency and conservation. Parts IV and V place an emphasis on arguments and proposals for FERC action on GHG emissions and CO₂ emissions in particular, where we believe action is most needed and perhaps most justified, but encompass the possibility for action on other environmental issues as well. The Article concludes with a few summarizing remarks.

A final introductory note: This Article takes the FPA as a given and explores the possibility that FERC should take a new approach to interpreting and implementing the statute. The Article sets forth our best effort at an argument for why this approach should be considered both legally permissible and preferable as policy, yet it acknowledges the possibility that courts could find the approach impermissible, as well as the significant limitations that the approach would face if it were upheld. These difficulties suggest that the ideal solution may be for Congress to amend the FPA to give FERC the power to consider environmental issues in its rate regulation—an approach the authors of this Article wholly support.¹⁸ If Congress acted, it could give FERC clear authority to consider environmental factors and could erase some of the jurisdictional barriers that might limit the effectiveness of environmentally conscious regulation by FERC under the current FPA. A congressional solution may be unlikely in the near future, however, given the current political gridlock in Congress¹⁹ and the opposition, particularly from the fossil fuel industry and fossil-fuel-reliant utilities,²⁰ that such a proposal might face. That political reality is part of

¹⁸ See *Re Restructuring of the Electric Utility Industry in Vermont*, 174 P.U.R.4th 409, 473, 475–76 (Vt. Pub. Serv. Bd. 1996) (proposing that the FPA should be amended “to make it clear that FERC has both the authority and the responsibility to consider the environmental impacts of broad industry restructuring decisions”). Cf. Richard Lazarus, Chair Lecture Marking his Appointment to the Harvard Law School Howard J. and Katherine W. Aibel Professorship of Law: Environmental Lawlessness (Apr. 10, 2013), available at <http://perma.cc/N9ZL-L7Y7> (discussing inadequacy of decades-old federal statutes for addressing new and contemporary environmental problems).

¹⁹ See Chris Cillizza, *The Least Productive Congress Ever*, WASH. POST, Jul. 17, 2013, <http://perma.cc/KUM9-CPM6>.

²⁰ See Evan Mackinder, *Pro-Environment Groups Outmatched, Outspent in Battle Over Climate Change Legislation*, OPENSECRETSBLOG (Aug. 23, 2010, 12:45pm), <http://perma.cc/D67K-H3LW> (noting record \$175 million of lobbying—outpacing spending by environmental groups eightfold—by the oil and gas industry in 2009, when Congress narrowly failed to pass cap-and-trade legislation).

why we focus our proposal on the administrative law route.²¹ Moreover, we hope that the Article provides insight into the types of improved policies that would be possible under environmentally inclusive FERC regulation, regardless of how that new regulatory approach was reached.

I. ELECTRICITY'S ENVIRONMENTAL COSTS: CARBON AS A CASE STUDY

To understand why there may be a need for FERC to assume environmental responsibilities, it is necessary to explore how existing environmental regulation of the electricity industry in the United States is inadequate. This Part examines what is surely the most pressing environmental problem relating to the industry, presenting an overview of the social costs of climate change and then surveying U.S. regulations that internalize the costs of GHG emissions from electricity or otherwise limit them. To be sure, electricity generation in the United States produces a host of other environmental problems, including air and water pollution, yet we focus here, and elsewhere in this Article, on the costs of climate change from GHG emissions because of its urgency and the important role FERC could play in this area.

A. *What the Costs Are*

i. *Estimating the Social Cost of Carbon*

Although the practice of quantifying and monetizing environmental harm is open to criticism on a number of grounds,²² and estimates of the social costs of climate change vary widely, quantifying these costs and incorporating them into the prevailing cost-benefit approach to regulation may be the most effective and realistic way to address these environmental harms and reduce them to socially desired levels in the near future. Moreover, such an approach would be an appropriate one for FERC to take under the economically-oriented FPA, which charges FERC with ensuring that “rates,” “charges,” and “classifications” relating to wholesale sales and interstate transmission of electricity are just and reasonable.²³

In 2010, a federal interagency working group produced a set of estimates of the social cost of carbon emissions for federal agencies “to incorporate the

²¹ See Jody Freeman & David B. Spence, *Old Statutes, New Problems*, PENN. L. REV. (forthcoming 2014) (arguing that “congressional dysfunction invites agencies and courts to do the work of updating statutes,” that “agencies are better suited than courts to do that updating work,” and that “the case for deferring to agencies in that task is stronger than ever with Congress largely absent from the policymaking process”).

²² See generally, e.g., Frank Ackerman & Lisa Heinzerling, *Pricing the Priceless: Cost-Benefit Analysis of Environmental Protection*, 150 U. PA. L. REV. 1553 (2002) (criticizing cost-benefit analysis in general and as used in the context of environmental regulation, partly because of the difficulty of monetizing environmental harm). Conventional economic approaches to environmental policymaking are also open to criticism for being overly anthropocentric and instrumentalist.

²³ See 16 U.S.C. § 824e (2012).

social benefits from reducing CO₂ emissions into cost-benefit analyses of regulatory actions that have small, or ‘marginal,’ impacts on cumulative global emissions.”²⁴ In 2013, the group released a technical update of the estimates.²⁵ The social cost estimate “is intended to include . . . changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services due to climate change.”²⁶ The group has noted the high levels of uncertainty that currently inhere in attempting to predict and monetize the economic impacts of CO₂ emissions, but has developed a range of cost values using “a defensible set of input assumptions” grounded in three models used to study the impacts of climate change and frequently cited in peer-reviewed scientific literature.²⁷ The group’s most recent set of estimates vary widely based on the discount rate used to translate future costs into current dollars, but the central value—the estimate most likely to be accurate given the models’ predictions and a three percent discount rate—for the cost of carbon emitted in the year 2015 is thirty-eight dollars (in 2007 dollars) per metric ton of CO₂,²⁸ a figure likely to be adjusted in light of new research and advances in modeling.²⁹ The group has not provided an estimate for the social cost of other GHGs—which differ from CO₂ in aspects such as radiative forcing and atmospheric lifetime, so that different analyses are needed to estimate their social cost—but has stated that it hopes to offer estimates for these in the future.³⁰

Additional studies have been done to estimate the social cost of CO₂³¹ and other greenhouse gases.³² The estimates vary considerably and are subject to large uncertainties and methodologies difficulties,³³ but we need not delve into

²⁴ INTERAGENCY WORKING GROUP ON SOCIAL COST OF CARBON, U.S. GOV’T, TECHNICAL SUPPORT DOCUMENT: SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS UNDER EXECUTIVE ORDER 12866, at 2 (2010) [hereinafter 2010 SOCIAL COST OF CARBON]. The document explains that “most federal regulatory actions can be expected to have marginal impacts on global emissions.” *Id.*

²⁵ INTERAGENCY WORKING GROUP ON SOCIAL COST OF CARBON, UNITED STATES GOVERNMENT, TECHNICAL SUPPORT DOCUMENT: TECHNICAL UPDATE OF THE SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS UNDER EXECUTIVE ORDER 12866 (2013) [hereinafter 2013 SOCIAL COST OF CARBON].

²⁶ *Id.* at 2.

²⁷ 2010 SOCIAL COST OF CARBON, *supra* note 24, at 3.

²⁸ 2013 SOCIAL COST OF CARBON, *supra* note 25, at 3, 12 (noting how the three percent discount rate figure is the “central” estimate). \$38 in 2007 dollars translates into \$42.69 in 2013 dollars. See BUREAU OF LABOR STATISTICS, CPI INFLATION CALCULATOR, <http://perma.cc/4KAX-TCT6>.

²⁹ See 2010 SOCIAL COST OF CARBON, *supra* note 24, at 4.

³⁰ *Id.* at 12.

³¹ See Richard S. J. Tol, *The Social Cost of Carbon*, 3 ANN. REV. OF RESOURCE ECON. 419 (2011) (containing a meta-analysis of numerous studies).

³² E.g., Samuel Fankhauser, *The Social Costs of Greenhouse Gas Emissions: An Expected Value Approach*, 15 ENERGY J. 157 (1994).

³³ See Tol, *supra* note 31, at 429–35 (summarizing variation). EPA cautions that “it is very likely” that estimates of the social cost of carbon (“SCC”) underestimate the damages from climate change, adding that “[t]he models used to develop SCC estimates, known as integrated assessment models, do not currently include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature because of a lack of precise information on the nature of damages and because the science incorporated into these models naturally lags behind the most recent research.” *The Social Cost of Carbon*, EPA.GOV, <http://perma.cc/7KMF-MJPY>. Tol explains that newer SCC models “tend to assume that [human]

these intricacies for purposes of this Article. We need only observe that the estimated cost of carbon emissions is significant, and that FERC could rely on the federal interagency group estimates if it were to adopt proposals like the ones put forth in this Article.

ii. The Contribution of Electricity Generation to GHG Emissions

Electricity generation is a huge contributor to U.S. GHG emissions, constituting thirty-eight percent of all U.S. CO₂ emissions and thirty-one percent of GHG emissions (on a global warming potential-weighted basis) in 2012.³⁴ The GHG efficiency of generation varies widely by type of generation. On a life-cycle basis,³⁵ fossil fuel powered plants are orders of magnitude less GHG-efficient than renewable facilities like solar and wind plants; one meta-analysis estimated the typical coal plant had a lifecycle GHG efficiency of 1,000 grams of CO₂ equivalent per kilowatt-hour of electricity generated, with natural gas being twice as efficient as that, solar photovoltaic about thirty times as efficient, and wind about 110 times as efficient.³⁶

agents have perfect foresight about climate change and have the flexibility and appropriate incentives to respond” and adapt, Tol, *supra* note 31, at 424; that many climate effects, including potentially large ones, remain unquantified in the models, *id.* at 426; that the models have difficulty valuing damage to ecosystems, *id.* at 428; and that the level of uncertainty involved is “large and probably understated — especially in terms of failing to capture the risk of large welfare losses”, *id.* at 425; *see also* PETER HOWARD, OMITTED DAMAGES: WHAT’S MISSING FROM THE SOCIAL COST OF CARBON 1 (2014) (study funded by EDF, Institute for Policy Integrity, and the Natural Resources Defense Council finding that the updated federal interagency working group estimate “should be viewed as a lower bound” since it omits many climate impacts and includes only a portion of potential harms for included impacts, as the study goes on to analyze).

³⁴ *See* GHG INVENTORY, *supra* note 4, at ES-5, Table ES-2 (listing CO₂ emissions), ES-22–ES-23 (listing total GHG emissions).

³⁵ A lifecycle analysis or assessment (“LCA”) is “a technique to assess the environmental aspects and potential impacts associated with a product, process, or service” by “[c]ompiling an inventory of relevant energy and material inputs and environmental releases” and “[e]valuating the potential environmental impacts associated with identified inputs and releases.” *Life Cycle Assessment (LCA)*, EPA.GOV, <http://perma.cc/N55G-VYD8>. The major stages in an LCA are raw material acquisition, materials manufacture, production, use/reuse/maintenance, and waste management. *Id.* For an example of a regulatory program using lifecycle analysis, see CAL. CODE REGS. tit. 17, § 95481 (2012) (using lifecycle emissions to define carbon intensity).

³⁶ Benjamin K. Sovacool, *Valuing the Greenhouse Gas Emissions from Nuclear Power: A Critical Survey*, 36 ENERGY POLICY 2940, 2950 (2008). While natural gas has significant advantages over coal and oil in terms of its combustion carbon dioxide emissions, its impact on global warming also depends on its methane emissions during production, processing, and distribution. According to the IPCC 5th Assessment Report, methane is eighty-six times more potent than CO₂ as a climate forcer over a twenty-year time horizon and thirty-four times more potent over 100 years. IPCC 2013, *supra* note 1, at 714. Until recently, direct monitoring and regulation of such methane emissions have been very limited. The Environmental Defense Fund and a number of universities and energy companies are together conducting field investigations of methane emissions and improving monitoring techniques. David T. Allen et al., *Measurements of Methane Emissions at Natural Gas Production Sites in the United States*, 110 PROC. OF NAT. ACAD. SCI. 17,768, 17,768 (2013). EPA will be indirectly regulating methane emissions from new natural gas wells in its 2012 New Source Performance Standards pursuant to section 111 of the Clean Air Act. 77 Fed. Reg. 49,490, 49,492–93 (2012) (to be codified at 40 C.F.R. pts. 60, 63). The first state regulatory agency to adopt methane emission monitoring requirements is the Colorado Air Quality Control Commission, in its Regulation 7. 5 Colo. Code Regs. §§ 1001-5, 1001-8, 1001-9 (2014).

GHG emissions from coal generation, the dominant source of electricity in the United States, contributed 24.5% of all U.S. GHG emissions on a global warming potential-weighted basis in 2012.³⁷ While coal has declined over the past few years as a fuel source for generation in the United States,³⁸ fossil fuels remain the dominant source of electricity. In 2012, 37.6% of U.S. electricity came from coal, 30.3% from natural gas, 19% from nuclear, 7% from hydro-power, 3% from wind, and 0.1% from solar.³⁹

Using the central federal interagency estimate of the social cost of carbon, we can calculate that CO₂ emissions from U.S. electricity generation in 2010 alone are projected to cost the world about seventy-six billion in today's dollars.⁴⁰

B. A Lack of Adequate Solutions

U.S. regulation related to GHG emissions from electricity generation currently consists of a patchwork of various kinds of state, regional, and federal programs. Although it is difficult to compare the impacts of the different types of regulation, and EPA efforts have been accelerating, the many state and regional programs arguably have a greater impact collectively than the federal programs.⁴¹

i. Federal Regulation

a. EPA Initiatives

Legislation to address GHG emissions through a national cap-and-trade system died in Congress in 2009, and no serious congressional attempts to address the issue have occurred since.⁴² That has left the task of regulating these emissions to EPA, which has taken two significant actions toward regulating GHG emissions from electricity generation. These are: (1) including GHG emissions in the Prevention of Significant Deterioration ("PSD") and Title V

³⁷ See GHG INVENTORY, *supra* note 4, at 3-6, ES-4 (showing that electricity generation from coal is responsible for 1,594.0 out of the 6,501.5 teragrams of CO₂ equivalent emitted in the United States in 2012).

³⁸ Coal constituted thirty-nine percent of net U.S. generation in 2013, down from forty-eight percent in 2008. See U.S. ENERGY INFORMATION ADMINISTRATION, ELECTRIC POWER MONTHLY WITH DATA FOR JANUARY 2014 tbl.1.1 (2014), available at <http://perma.cc/9RY7-LGCJ>.

³⁹ U.S. ENERGY INFORMATION ADMINISTRATION, SHORT-TERM ENERGY OUTLOOK tbl.7d (2013).

⁴⁰ Derived by multiplying thirty-three dollars per metric ton of CO₂ (the central estimate for the cost of carbon emitted in 2010, expressed in 2007 dollars) by 2,023.6 million metric tons of CO₂ and adjusting for inflation. See 2013 SOCIAL COST OF CARBON, *supra* note 25, at 3; GHG INVENTORY, *supra* note 4, at ES-5. This assumes roughly fourteen percent total inflation between 2007 and 2014.

⁴¹ See PHILIP A. WALLACH, U.S. REGULATION OF GREENHOUSE GAS EMISSIONS 2 (2012), available at <http://perma.cc/Q8G3-R948> (asserting that federal actions can seem like a "sideshow" compared to state and regional actions in this area).

⁴² *Id.* at 4.

Operating Permit Programs, and (2) proposing a Carbon Pollution Standard for New Power Plants.

The inclusion of GHG emissions in the PSD Permit Program means that very large GHG emitters have to obtain PSD permits under the Clean Air Act for their GHG emissions if they are newly constructed or undertake modifications that will increase GHG emissions by a certain threshold.⁴³ The PSD program requires the source to apply the best available control technology (“BACT”) to control its GHG emissions.⁴⁴ BACT is determined on a case-by-case basis taking into account, among other factors, the cost and effectiveness of the control.⁴⁵ EPA has provided guidance about available and emerging BACT technologies (such as carbon capture and sequestration)⁴⁶ but has not endorsed or required any control strategy, instead leaving the states discretion to determine what constitutes BACT on a case-by-case basis.⁴⁷ The Court of Appeals for the District of Columbia upheld EPA’s decision to regulate GHG emissions from stationary sources under the PSD and Title V programs.⁴⁸ The United States Supreme Court granted certiorari in October 2013 to review an important aspect of EPA’s action⁴⁹ and heard oral argument in the matter in February 2014.⁵⁰

EPA’s revised proposed Carbon Pollution Standard for New Power Plants would require that fossil-fuel-burning power plants constructed in the future produce no more than 1,000 or 1,100 pounds (depending on the plant type) of CO₂ per megawatt-hour of electricity generated.⁵¹ The regulation would not affect existing power plants.

While these efforts are significant, they remain subject to considerable legal and implementation uncertainty, and it remains to be seen how successful they will be in reducing GHG emissions.

⁴³ See EPA, Fact Sheet: Final Rule - Prevention of Significant Deterioration and Title V Operating Permit Greenhouse Gas (GHG) Tailoring Rule Step 3 and GHG Plantwide Applicability Limits, at 1 [hereinafter Tailoring Rule Step 3 Fact Sheet], available at <http://perma.cc/P77V-885A>. This will include a large number of power plants: A typical 500 megawatt coal-fired baseload power plant emits about three million tons of CO₂ equivalent annually. LARRY PARKER & JAMES E. MCCARTHY, CONG. RES. SERV., R41505, EPA’S BACT GUIDANCE FOR GREENHOUSE GASES FROM STATIONARY SOURCES (2010), available at <http://perma.cc/5SCS-724B>. Facilities that must obtain a PSD permit anyway, to cover other regulated pollutants, must also address GHG emissions increases of 75,000 tons per year CO₂ equivalent or more. Tailoring Rule Step 3 Fact Sheet, *supra*, at 1. Title V does not impose any independent substantive emissions limitations, so we do not discuss the Title V requirements relating to GHG emissions.

⁴⁴ 42 U.S.C. § 7475(a)(4) (2012).

⁴⁵ 42 U.S.C. § 7479(3) (2012); 40 C.F.R. § 52.21(b)(12) (2013); see also PARKER & MCCARTHY, *supra* note 43, at 2.

⁴⁶ EPA, AVAILABLE AND EMERGING TECHNOLOGIES FOR REDUCING GREENHOUSE GAS EMISSIONS FROM COAL-FIRED ELECTRIC GENERATING UNITS 25–26 (2010).

⁴⁷ See PARKER & MCCARTHY, *supra* note 43, at Summary.

⁴⁸ Coal. for Responsible Regulation, Inc. v. EPA, 684 F.3d 102, 113 (D.C. Cir. 2012).

⁴⁹ Util. Air Regulatory Group v. EPA, 134 S. Ct. 418 (2013).

⁵⁰ Transcript of Oral Argument, Util. Air Regulatory Group v. EPA, No. 12-1146 (S. Ct. argued Feb. 24, 2014), available at <http://perma.cc/UKT9-8ZJG>.

⁵¹ Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1429, 1433 (proposed Jan. 8, 2014) (to be codified at 40 C.F.R. pts. 60, 70, 71, 98).

b. Tax Incentives

Federal law provides tax incentives for certain types of renewable generation. The Production Tax Credit⁵² is the centerpiece of these incentives.⁵³ The amount of the credit is currently 2.3 cents per kilowatt-hour for wind, geothermal, and closed-loop biomass facilities, and 1.1 cents per kilowatt-hour for open-loop biomass, landfill gas, municipal solid waste, hydroelectric, and marine and hydrokinetic facilities.⁵⁴

ii. State Regulation

a. Cap-and-Trade Programs

Two cap-and-trade programs are currently in force at the state/regional level. One is the Regional Greenhouse Gas Initiative (“RGGI”), a cooperative effort by nine northeastern states to reduce CO₂ emissions from power plants in these states by ten percent from 2009 levels by 2018.⁵⁵ RGGI establishes a cap representing the target level of CO₂ emissions from power plants with capacity of twenty-five megawatts or more in the region (168 plants as of 2012) in a given year.⁵⁶ The original cap aimed to stabilize CO₂ emissions until 2015, but the 2014 cap was lowered after a 2012 program review because there was an excess of allowances compared to actual emission levels.⁵⁷ A fixed number of allowances to emit CO₂ are sold in quarterly auctions—each allowance represents a permit to emit one short ton.⁵⁸ Allowances may also be bought through secondary exchanges or obtained through offsets, which are GHG emission reductions achieved outside the power sector.⁵⁹ The March 2014 clearing price for an allowance was four dollars.⁶⁰ Although that price may increase as the cap begins to decrease in 2015, it is much lower than the central federal interagency estimate of the social cost of carbon.⁶¹

The other cap-and-trade program, California’s, encompasses not just CO₂ but other GHG emissions, and applies to importers of electricity into the state as well as power plants in California.⁶² The November 2013 auction for 2013

⁵² 26 U.S.C. § 45 (2012).

⁵³ Steven Ferrey et. al., *Fire and Ice: World Renewable Energy and Carbon Control Mechanisms Confront Constitutional Barriers*, 20 DUKE ENVTL. L. & POL’Y F. 125, 135 (2010).

⁵⁴ *Renewable Electricity Production Tax Credit (PTC)*, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, <http://perma.cc/B52A-9QLG>.

⁵⁵ *Welcome*, REGIONAL GREENHOUSE GAS INITIATIVE, <http://perma.cc/85PL-B9S5>.

⁵⁶ *Regulated Sources*, REGIONAL GREENHOUSE GAS INITIATIVE, <http://perma.cc/46V2-Q2BA>.

⁵⁷ REGIONAL GREENHOUSE GAS INITIATIVE, RGGI 2012 PROGRAM REVIEW: SUMMARY OF RECOMMENDATIONS TO ACCOMPANY MODEL RULE AMENDMENTS 1–2, *available at* <http://perma.cc/B8LB-2VW3>.

⁵⁸ *Id.* at 2.

⁵⁹ *Id.*

⁶⁰ *Auction Results*, REGIONAL GREENHOUSE GAS INITIATIVE, <http://perma.cc/GX9S-TN82>.

⁶¹ Four dollars per short ton equals \$3.63 per metric ton. The interagency estimate for the social cost of one metric ton of CO₂ emitted in 2015, by comparison, is thirty-eight dollars in 2007 dollars, or \$42.69 in 2013 dollars. 2013 SOCIAL COST OF CARBON, *supra* note 25, at 3.

⁶² CAL. CODE REGS. tit. 17, §§ 95810–11 (2014).

allowances produced a market price of \$11.48 per allowance,⁶³ defined as an authorization to emit one metric ton of CO₂ equivalent⁶⁴—significantly less than the central federal interagency price.

b. RPSs and Other Mechanisms

A renewable portfolio standard (“RPS”) requires electricity suppliers to procure a certain percentage of their electricity from renewable sources or purchase renewable energy credits from other sources to meet the prescribed standard.⁶⁵ RPSs are “focused primarily on increasing the mix of renewable sources of electricity.”⁶⁶ They subsidize and favor clean energy but do not directly internalize the costs of emissions from generation. As of 2010, thirty states and the District of Columbia had implemented an RPS at some level.⁶⁷

States have also implemented tax credits and other policies to subsidize clean energy.⁶⁸ Notably for our purposes, some public utility commissions (the state bodies responsible for economic regulation of electric utilities) are taking proactive measures to reduce GHG emissions and otherwise address climate change.⁶⁹ A substantial literature has developed analyzing the effectiveness of RPSs and other subsidizing policies with cap and trade schemes and emissions taxes.⁷⁰ Because of the complexity and variety of the states’ programs, it is difficult to draw precise general conclusions about their cumulative impact. But the lack of robust direct internalization of environmental costs through mechanisms like taxes and cap and trade programs, combined with the modest nature of many of the other programs, suggests that much more needs to be done to achieve the proper incentives.

Even if all of these federal and state programs are sustained legally, the GHG emissions standards incorporated in them represent only a modest step toward the emissions reductions necessary for the U.S. electricity industry to

⁶³ AIR RES. BD., CAL. ENVTL. PROTECTION AGENCY, CALIFORNIA AIR RESOURCES BOARD QUARTERLY AUCTION 5: NOVEMBER 2013 1 (2013), available at <http://perma.cc/Y8PA-27KN>.

⁶⁴ CAL. CODE REGS. tit. 17, § 95802(a)(8) (2014).

⁶⁵ Joshua P. Ferhsee, *Renewable Mandates and Goals*, in *THE LAW OF CLEAN ENERGY* 77, 77 (Michael B. Gerrard ed., 2011).

⁶⁶ *Id.* at 78.

⁶⁷ *Id.* at 80.

⁶⁸ For an overview of all fifty states’ laws relating to energy efficiency and renewable energy, see *State Actions on Clean Energy: A Fifty-State Survey*, in *THE LAW OF CLEAN ENERGY*, *supra* note 64, at 559–618; see also DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, <http://perma.cc/56N7-3NUC>.

⁶⁹ See, e.g., CAL. PUB. UTIL. COMM’N ET AL., WEST COAST PUBLIC UTILITY COMMISSIONS’ JOINT ACTION FRAMEWORK ON CLIMATE CHANGE (2006), available at <http://perma.cc/Q886-YJ44>; *Emerging Procurement Strategies*, CAL. PUB. UTILS. COMM’N, <http://perma.cc/566J-SWC7>. The New York State Public Service Commission recently adopted two orders describing measures that the state’s utilities should consider and that it intends to pursue relating to the impact of global warming on its utilities and reduction of greenhouse gases. See *Re Energy Efficiency Portfolio Standard*, Case 07-M-0548, 2013 WL 6858914, at *10–12 (N.Y.P.S.C. Dec. 26, 2013); *Re Consolidated Edison Company of New York*, Case 13-E-0030 et. al., 2014 WL 794789, at 30, 33–35 (N.Y.P.S.C. Feb. 21, 2014). EDF was a party to the latter proceeding.

⁷⁰ See, e.g., Gesine Bökenkamp et al., *Policy Instruments*, in *THE SOCIAL COST OF ELECTRICITY* 185–230 (Anil Markandya et al. eds., 2010).

adequately address its contribution to global warming.⁷¹ This reality suggests that economic regulators of the industry—i.e., FERC at the federal level—should think creatively about what their role should be. Moreover, as we will explore, even if more powerful regulations along these lines are implemented in the future, there may still be an important role for FERC to play by adopting an environmentally inclusive approach, thanks to its unique jurisdiction and expertise.

II. FERC AND THE ELECTRICITY INDUSTRY: SOME BACKGROUND

A. *The Early Structure of the Electricity Industry; The Origins of FERC and the FPA*

When the FPA was passed in 1935, “the electricity utility consisted mostly of vertically integrated utilities that functioned as traditional regulated monopolies.”⁷² Vertical integration meant that the same utility would generate electricity, transmit it over high-voltage transmission lines, and distribute it over lower-voltage distribution lines to the consumers in the utility’s service area. The utility had a local monopoly and was subject to extensive regulation. Regulators set rates based on the utility’s cost of service, including its operating expenses and cost of capital.⁷³ The industry was dominated by a small number of companies and characterized by inflated rates.⁷⁴

The immediate cause of the FPA’s enactment was a Supreme Court decision holding that state regulation of interstate sales of electricity at wholesale violated the Constitution’s Commerce Clause⁷⁵—a decision that left a regulatory void now known as the “Attleboro gap.”⁷⁶ Congress had already created the Federal Power Commission (“FPC”) as an independent agency in 1920, charging it with oversight of hydroelectric power.⁷⁷ The FPA (of 1935) gave the FPC jurisdiction over wholesale sales—defined as sales for resale⁷⁸—and transmission of electricity in interstate commerce.⁷⁹ The statute sought to strike a balance between federal and state regulation, excluding from FPC jurisdiction facilities used for the generation of electric energy, facilities used in local distribution or only for the transmission of electric energy in intrastate commerce,

⁷¹ See NAT’L RESEARCH COUNCIL, CLIMATE STABILIZATION TARGETS: EMISSIONS, CONCENTRATIONS, AND IMPACTS OVER DECADES TO MILLENNIA 21 (2011), available at <http://perma.cc/NA28-CXE5> (stating that “stabilization of [atmospheric] carbon dioxide concentrations at any selected target level would require reductions in total emissions of at least eighty percent (relative to any peak emission level)”).

⁷² JAMES H. MCGREW, FERC: FEDERAL ENERGY REGULATORY COMMISSION 151 (2d ed. 2009).

⁷³ MICHAEL E. SMALL, A GUIDE TO FERC REGULATION AND RATE-MAKING OF ELECTRIC UTILITIES AND OTHER POWER SUPPLIERS 31 (3d ed. 1994).

⁷⁴ MCGREW, *supra* note 72, at 139.

⁷⁵ *Pub. Utils. Comm’n of R.I. v. Attleboro Steam & Elec. Co.*, 273 U.S. 83, 89–90 (1927).

⁷⁶ MCGREW, *supra* note 72, at 140.

⁷⁷ *Id.* at 5.

⁷⁸ 16 U.S.C. § 824(d) (2012).

⁷⁹ 16 U.S.C. § 824(a) (2012).

and facilities for the transmission of electric energy consumed wholly by the transmitter.⁸⁰ It also excluded government entities and rural electric cooperatives from the FPC's reach.⁸¹

B. *Industry Restructuring*

For several decades, the FPC steadily regulated wholesale rates under the traditional cost-of-service approach. Utilities were able to achieve increasing economies of scale by building larger and larger power plants,⁸² and the traditional industry structure prevailed until the 1970s. But a number of factors, particularly the energy crisis, converged to launch an industry upheaval in the seventies.⁸³ Smaller power plants became more economical than the largest plants, and longer-distance transmission became more economical. With incentives from the Public Utility Regulatory Policies Act,⁸⁴ which amended the FPA to encourage smaller-scale and renewable generation by non-utilities, generation by independent sources unaffiliated with the utilities became increasingly common.⁸⁵ Congress reorganized the FPC as FERC in 1977, making it a branch of the Department of Energy but preserving its status as an independent agency.⁸⁶ In the 1980s, FERC adopted a new policy of allowing market forces to determine rates in electricity markets that the agency deemed competitive enough to prevent providers of generation or transmission from raising rates to supracompetitive levels⁸⁷—a change that would have a major impact on the industry's structure.

FERC has since continued its restructuring efforts. In Order No. 888, FERC concluded that discrimination by traditional utilities with control over transmission lines against others seeking access to transmission was hindering development and deployment of independent generation and hindering competition.⁸⁸ In response, FERC required all transmission providers under its jurisdiction to provide nondiscriminatory open access tariffs for their transmission facilities.⁸⁹ In Order No. 2000,⁹⁰ FERC encouraged and set out guidelines for the formation of Regional Transmission Organizations (“RTOs”), independent entities formed by transmission owners in a region to operate their collective transmission networks in a centralized, coordinated, efficient, and open way.

⁸⁰ 16 U.S.C. § 824(b)(1) (2012).

⁸¹ 16 U.S.C. § 824(f) (2012).

⁸² Order No. 888, Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 61 Fed. Reg 21,540, 21,543 (May 10, 1996) (to be codified at 18 C.F.R. pts. 35, 385) [hereinafter Order No. 888].

⁸³ MCGREW, *supra* note 72, at 144.

⁸⁴ Pub. L. No. 95-617, 92 Stat. 3117 (1978).

⁸⁵ See Order No. 888, *supra* note 82, at 21,545.

⁸⁶ MCGREW, *supra* note 72, at 5.

⁸⁷ Order No. 888, *supra* note 82, at 21,545-56.

⁸⁸ *Id.* at 21,550.

⁸⁹ *Id.* at 21,541.

⁹⁰ Order No. 2000, Regional Transmission Organizations, 89 FERC ¶ 61,285 (Dec. 20, 1999) [hereinafter Order No. 2000].

Today, much of the U.S. electricity grid operates under the supervision of an RTO or an Independent System Operator (“ISO”), a similar type of entity.⁹¹

Other rulemakings restructuring aspects of the industry have followed. Particularly notable for the purposes of this Article is Order No. 1000, which, among other things, requires transmission providers to participate in a regional transmission planning process that meets certain guidelines and produces a regional transmission plan; requires transmission planning processes to consider transmission needs driven by public policy requirements (federal or state laws such as state renewable portfolio standards); requires some planning and cost allocation coordination by transmission providers in neighboring planning regions; and requires that regional planning processes adopt cost allocation methods, satisfying certain principles, for transmission projects selected for regional cost allocation.⁹² FERC issued Order No. 1000 to follow up on earlier reforms it had launched that were aimed at improving regional transmission planning processes,⁹³ whereby transmission owners and other stakeholders in a transmission region develop and settle on plans for transmission construction and improvement, as well as non-transmission alternatives for meeting energy needs, such as energy efficiency programs, in their region, and how to allocate costs for these projects. Cost allocation of new transmission projects has become a thorny issue, subject to extensive disagreement and litigation, holding up needed expansion and development of the nation’s transmission system.⁹⁴ Utilities and their customers often cannot agree with other utilities and their customers on how to allocate the costs for large new transmission projects that may cut across multiple transmission owners’ service areas, even multiple states, when these projects may provide different levels of different types of benefits⁹⁵ to

⁹¹ See *Regional Transmission Organizations (RTO)/ Independent System Operators (ISO)*, FERC, <http://perma.cc/5RN9-36DB> (map of RTO/ISO regions).

⁹² Fed. Energy Regulatory Comm’n, Order No. 1000 Fact Sheet, *available at* <http://perma.cc/D8NY-7NZ5>.

⁹³ See, e.g., Order No. 890, Preventing Undue Discrimination and Preference in Transmission Service, 72 Fed. Reg. 12,266 (Mar. 15, 2007) (to be codified at 18 C.F.R. pt. 35) [hereinafter Order No. 890].

⁹⁴ See Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, Order No. 1000, 76 Fed. Reg. 49,842, 49,850–52 (Aug. 11, 2011) (to be codified at 18 C.F.R. pts. 35, 38) [hereinafter Order No. 1000]; see also *Ill. Commerce Comm’n v. FERC*, 576 F.3d 470, 472 (7th Cir. 2009) (litigation over cost allocation).

⁹⁵ The two main types of traditionally recognized benefits are benefits from increased reliability of the system and benefits from cheaper electricity or service. But Order No. 1000 states that regional and interregional transmission planning processes also may consider as a benefit fulfillment of “public policy requirements”—for example, state laws mandating that utilities derive a certain percentage of the electricity they provide in the state from renewables. Order No. 1000, *supra* note 94, at 49,937. This type of benefit is particularly contentious since the states have widely varying public policy requirements. A concern of some is that customers will be allocated costs based on benefits that they may not receive or their state may not recognize, such as reducing GHG emissions. See *id.* at 49,879. FERC’s response is that the planning process must still adhere to the principle that “the costs of new transmission facilities allocated within the planning region must be allocated within the region in a manner that is at least roughly commensurate with estimated benefits.” *Id.*

various customers.⁹⁶ The needed expansion and development of transmission, in turn, are due to a number of factors, including a shift (largely driven by state laws) toward renewable energy in the generation mix, and FERC's policy of encouraging wholesale power markets.⁹⁷

FERC has also issued regulations to remedy practices of transmission providers that were having a discriminatory impact on small and variable energy sources such as wind and solar,⁹⁸ and to ensure adequate compensation for demand response in energy markets,⁹⁹ among other things.¹⁰⁰ FERC has generally grounded the reforms of the electricity industry discussed in this Part in its authority under FPA sections 205 and 206 to ensure that rates, terms, and conditions of interstate wholesale sales and transmission are just and reasonable and not unduly discriminatory or preferential.¹⁰¹ FERC's reforms have attempted to guide the development of what is a complex patchwork of investor-owned utilities, consumer-owned utilities, and municipality-owned utilities, independent power generators and marketers, conventional generation and renewable generation, and interconnected transmission regions exhibiting various degrees of organization and centralization, all operating within another complex patchwork of federal, state, and local regulation. FERC's overarching goals in these reforms have primarily been twofold: making electricity as cheap as possible and promoting reliability of the nation's electricity system.¹⁰² Although recent reforms such as Orders No. 745, 764, and 1000 suggest that FERC is increasingly concerned with promoting or at least creating a fair playing field for clean energy and energy conservation, FERC has largely ignored and rejected environmental considerations in its regulation of the electricity industry, as we will now discuss.

⁹⁶ For an example of such a disagreement, in this case over a large, high-voltage transmission line that the PJM Interconnection proposed to build to transmit electricity from the Midwest to the East Coast, see *Illinois Commerce Commission*, 576 F.3d 470.

⁹⁷ See Order No. 1000, *supra* note 94, at 49,849 (discussing need for reform).

⁹⁸ *E.g.*, Order No. 764, *Integration of Variable Energy Resources*, 77 Fed. Reg. 41,482, 41,483 (July 13, 2012) [hereinafter Order No. 764]; Order No. 2003, *Standardization of Generator Interconnection Agreements and Procedures*, 68 Fed. Reg. 49,846 (Aug. 19, 2003) (codified at 18 C.F.R. pt. 35) [hereinafter Order No. 2003].

⁹⁹ Order No. 745, *Demand Response Compensation in Organized Wholesale Energy Markets*, 76 Fed. Reg. 16,658 (2011) [hereinafter Order No. 745]. Demand response is the "reduction in the consumption of electric energy by customers from their expected consumption in response to an increase in the price of electric energy or to incentive payments designed to induce lower consumption of electric energy." *Id.* at 16,659 n.2. In May 2014, the Court of Appeals for the District of Columbia Circuit vacated Order No. 745 in a 2-1 ruling, finding it an impermissible regulation of retail rates. *Elec. Pwr. Supply Ass'n v. FERC*, No. 11-1486, slip op. at 14, 16 (D.C. Cir. May 23, 2014).

¹⁰⁰ For a list of FERC's major orders and regulations, see <http://perma.cc/TR62-7LHC>.

¹⁰¹ See, *e.g.*, Order No. 764, *supra* note 98, at 41,488; Order No. 745, *supra* note 99, at 16,676; Order No. 1000, *supra* note 94, at 49,890-917; Order No. 890, *supra* note 93, at 12,273; Order No. 888, *supra* note 82, at 21,541.

¹⁰² See, *e.g.*, Order No. 2003, *supra* note 98, at 49,847 (focusing on attaining "reasonably priced and reliable service").

III. FERC'S ENVIRONMENTAL POLICY WITH RESPECT TO RATE REGULATION

FERC's approach to environmental considerations varies across its jurisdictional domains. Compared to its more general regulation of the electricity industry under Part II of the FPA, FERC's more specialized regulation of hydroelectric facilities under Part I of the FPA involves extensive consideration of environmental issues.¹⁰³ Congress initially gave the FPC wide-ranging permitting authority over hydroelectric facilities¹⁰⁴ and instructed it to consider recreational purposes among other factors in the permitting process.¹⁰⁵ In 1986, Congress added stronger, more explicit environmental protections.¹⁰⁶ FERC also engages in significant environmental regulation in its oversight of natural gas pipelines, normally requiring environmental impact statements for proposed pipelines and other proposed facilities over which it has jurisdiction.¹⁰⁷

FERC's historical stance toward environmental issues associated with electricity transmission and wholesale sales is a different story.¹⁰⁸ Through FERC and judicial precedent, environmental considerations have been almost entirely excluded from FERC's administration of sections 205 and 206 of the FPA, the crucial provisions that give FERC its broad responsibility to ensure that the rates, contracts, regulations, and practices, relating to transmission and wholesale sales are "just and reasonable." This Part examines the development of FERC's position, beginning with an important Supreme Court case and then further elaborated in a series of actions by FERC relating to the Commission's responsibilities under NEPA.

A. Hope Natural Gas: *The Investor/Consumer Interest Framework*

In *Federal Power Commission v. Hope Natural Gas Co.*,¹⁰⁹ the Supreme Court established that the fixing of just and reasonable rates under provisions of the Natural Gas Act ("NGA") parallel to those in the Federal Power Act "involves a balancing of the consumer and investor interests."¹¹⁰ The case concerned an order by the FPC regarding rates collected by Hope, a natural gas producer and marketer based in West Virginia selling to wholesale customers in

¹⁰³ The FPC's broad environmental obligations with respect to hydropower permitting were at issue in—and strengthened by—the landmark litigation over a proposed hydropower facility at Storm King Mountain in upstate New York. *See Scenic Hudson Pres. Conference v. Fed. Power Comm'n*, 354 F.2d 608 (2d Cir. 1965).

¹⁰⁴ *See, e.g.*, 16 U.S.C. § 797 (2005) (granting FERC authority over the development of water power and resources).

¹⁰⁵ 16 U.S.C. § 803 (1992).

¹⁰⁶ Electric Consumers Protection Act of 1986, Pub. L. No. 99-495, 100 Stat. 1243 (codified principally at 16 U.S.C. §§ 797(e), 803(a)(1), 803(j)).

¹⁰⁷ Regulations Implementing the National Environmental Policy Act, 18 C.F.R. § 380.6(a) (2012) (listing FERC actions that generally require an Environmental Impact Statement ("EIS")).

¹⁰⁸ It may be worth noting here that *The Washington Post* has described FERC as "long . . . dominated by oil and gas or utility lawyers." Mufson, *supra* note 14.

¹⁰⁹ 320 U.S. 591, 603 (1944).

¹¹⁰ *Id.* at 603.

Ohio and Pennsylvania.¹¹¹ The FPC had issued its order following complaints by two Ohio cities and the Public Utility Commission of Pennsylvania that Hope's rates were excessive and unreasonable.¹¹² Most relevant for our purposes are the arguments made by the state of West Virginia, which had intervened and sought its own accounting methods that would produce higher rates.¹¹³ It did so because one component of the rate decision was how to value Hope's gas reserves, a determination that would apply to other gas reserves in the state, affecting property taxes and investment incentives.¹¹⁴ West Virginia specifically argued, among other things, that the Commission's chosen rate was too low given that the state's gas deposits were diminishing and increasing in value as a consequence.¹¹⁵

The Court, in an opinion by Justice Douglas, upheld the FPC's order.¹¹⁶ The FPC was not bound to use any particular formula, the Court said; rather, it was entitled to deference and discretion.¹¹⁷ Moreover, it is not the methodology or "theory" but the result or "impact" of the rate order that is to be judged.¹¹⁸ The considerations raised by West Virginia were beyond the scope of the FPC's mandate. The NGA was inconsistent with the notion that "the exploitation of consumers by private operators through the maintenance of high rates should be allowed to continue provided the producing states obtain indirect benefits from it."¹¹⁹ Rather, the statute was "plainly designed to protect the consumer interests against exploitation at the hands of private natural gas companies."¹²⁰ The majority also rejected the argument that the Commission had erred in failing to reduce a discrepancy that existed between industrial and domestic rates, saying, "we fail to find in the power to fix 'just and reasonable' rates the power to fix rates which will disallow or discourage re-sales for industrial use."¹²¹

Three Justices dissented,¹²² including Justices Frankfurter and Jackson, who both took a broader view of the FPA's public interest duties than the majority. Frankfurter argued that "[the statute's] very foundation is the 'public interest,' and the public interest is a texture of multiple strands. It includes more than contemporary investors and contemporary consumers. The needs to be served are not restricted to immediacy, and social as well as economic costs must be counted."¹²³ He went on to argue that the case should be remanded to the FPC for it to, among other things, "determine the public interest that is in

¹¹¹ *Id.* at 593–94.

¹¹² *Id.*

¹¹³ *Id.* at 607–10.

¹¹⁴ *Id.* at 607–09.

¹¹⁵ *Id.* at 608.

¹¹⁶ *Id.* at 594, 619.

¹¹⁷ *See id.* at 602.

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 612.

¹²⁰ *Id.*

¹²¹ *Id.* at 616.

¹²² *Id.* at 620 (Reed, J., dissenting), 624 (Frankfurter, J., dissenting), 628 (Jackson, J., dissenting).

¹²³ *Id.* at 627 (Frankfurter, J., dissenting).

its keeping in the perspective of the considerations set forth by Mr. Justice JACKSON.”¹²⁴

Jackson argued that the scarce nature of natural gas and the unique characteristics of the industry called for a departure from the Court’s traditional utility regulation principles. The investor-interest/consumer-interest model sufficed

in dealing with railroads or utilities supplying manufactured gas, electric power . . . where utilization of facilities does not impair their future usefulness. Limitation of supply, however, brings into a natural gas case another phase of the public interest that to my mind overrides both the owner and the consumer of that interest. Both producers and industrial consumers have served their immediate private interests at the expense of the long-range public interest. The public interest, of course, requires stopping unjust enrichment of the owner. But it also requires stopping unjust impoverishment of future generations.¹²⁵

Jackson was largely concerned with the higher prices residential customers were paying compared to industrial customers, believing the discrepancy to reflect undue discrimination and the lower rates to be “hastening decline.”¹²⁶ He noted the FPC’s jurisdictional inability to regulate directly the rates that local gas distribution companies charge to consumers, but he argued the FPC should address the residential-industrial discrepancy by indirectly regulating these rates: “It is too late in the day,” he wrote, “to contend that the authority of a regulatory commission does not extend to a consideration of public interests which it may not directly regulate and a conditioning of its orders for their protection.”¹²⁷ Ultimately, Jackson concluded that the FPC had discretion to adopt its own judgment of what the public interest entails, but he pointedly remarked that the case, if remanded to the Commission, would offer “an unprecedented opportunity if [the FPC] will boldly make sound economic considerations, instead of legal and accounting theories, the foundation of federal policy.”¹²⁸

The majority’s approach in *Hope* has influenced subsequent FERC practice as well as judicial interpretation of the FPA. The D.C. Circuit cited the case in *Grand Council of Crees (of Quebec) v. FERC*,¹²⁹ where the Grand Council, a political and governmental entity representing the indigenous Crees of Quebec, and conservationists challenged FERC’s decision to permit a seller of hydroelectric power to sell at market-based rates.¹³⁰ The petitioners argued that FERC’s decision would lead to greater output of hydropower and possibly the construction of new hydro plants, threatening fish and wildlife on which the

¹²⁴ *Id.* at 628.

¹²⁵ *Id.* at 656–57.

¹²⁶ *Id.* at 635–37, 639.

¹²⁷ *Id.* at 660.

¹²⁸ *Id.*

¹²⁹ 198 F.3d 950 (D.C. Cir. 2000).

¹³⁰ *Id.* at 953.

Crees relied for their livelihood, as well as migratory birds.¹³¹ The court held that the groups lacked prudential standing to challenge the decision under the FPA.¹³² Citing *Hope*'s principle that ratemaking under the FPA involves balancing the investor and the consumer interests, as well as FERC's own subsequent precedent to this effect, the court characterized the FPA as entirely motivated by antitrust concerns and concluded that environmental considerations were not a part of FPA rate regulation.¹³³ Such considerations, the court said, without further explanation, "would seem to complicate an already complex process, with little or no offsetting benefit to the public."¹³⁴ Moreover, the court held that the groups lacked standing even under NEPA, because NEPA "merely serves to ensure that FERC consider those environmental concerns that it is already authorized to consider"—and given the Court's interpretation of the FPA, "NEPA's procedural requirements do not further petitioners' environmental interests in this instance."¹³⁵

Yet it is possible to imagine Frankfurter and Jackson's approach serving as the basis for a reconceptualization of FERC's role and environmental responsibilities today. Although their views were predicated on a notion that gas regulation should differ from traditional utility regulation because of the scarce and physical nature of the commodity, one could argue that the problem of climate change presents a similar situation, in that failure to take the environmental costs of GHG emissions from electricity generation threatens the interests of persons beyond the immediate investor in and consumer of electricity, including future generations of people. By excluding these considerations from its regulation of the electricity industry and rates in particular, FERC could be said to be perpetuating a system whereby "producers and industrial consumers have served their immediate private interests at the expense of the long-range public interest."¹³⁶

B. NEPA

As the *Crees* opinion noted, FERC's own precedent has excluded environmental considerations from its conception of just and reasonable rates. FERC's treatment of NEPA has been an important part of this approach. The most significant precedent in this regard is a 1987 FERC decision to approve a set of interrelated contracts for the sale of energy and capacity by the Ohio Edison Company and Pennsylvania Power Company (collectively, "the OE system")

¹³¹ *Id.* at 954.

¹³² *Id.* at 995.

¹³³ *Id.* at 957–58. Interestingly, this characterization is at odds with the Supreme Court's statement in *NAACP v. FPC* that antitrust regulation represented only a "subsidiary" purpose of the FPA. 425 U.S. 662, 670 n.6 (1976).

¹³⁴ 198 F.3d at 958.

¹³⁵ *Id.* at 959. For a critique of the court's standing rulings, see Mark Seidenfeld & William S. Jordan III, *Judicial Review*, DEV. ADMIN. L. & REG. PRAC. 89, 102–04 (1999–2000) (calling the holding with respect to the FPA "questionable" and the holding with respect to NEPA "absurd" and "a misreading of NEPA case law").

¹³⁶ *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 657 (1944) (Jackson, J., dissenting).

to the Potomac Electric Power Company ("PEPCO").¹³⁷ The Natural Resources Defense Council ("NRDC") challenged FERC's decision, arguing that FERC should have undertaken an environmental impact statement under NEPA before approving the contracts, because the electricity would allegedly come from dirty coal plants that had been grandfathered in under the Clean Air Act, such that the deal would allegedly lead to increased emissions of sulfur dioxide from these plants.¹³⁸ FERC concluded it had no such duty, or even authority. Its reasoning was that the approval of a rate filing under the FPA is not an action that affects the environment within the meaning of NEPA:

Major federal "actions," within the meaning of NEPA, are defined in 40 C.F.R. § 1508.18 as actions with environmental "effects" that are actually or "potentially subject to federal control or responsibility." . . . Because jurisdiction over the siting, construction, licensing and operations of the OE system plants, as well as jurisdiction to order PEPCO to adopt conservation measures, to build new capacity, or to purchase power from other suppliers, have been withheld from this Commission by section 201 of the Federal Power Act, we conclude that neither the environmental consequences of, nor the alternatives to, the proposed sale are potentially subject to the control and responsibility of this agency. . . . Given this jurisdictional constraint on its ability to oversee the siting and construction of these power plants, the Commission has no means by which to assure that their location and technical features pose the least risk of adverse environmental impact. In short, by the time a rate schedule is filed that would involve power production by these plants, the Commission takes these plants as it finds them, environmentally speaking.¹³⁹

FERC's reasoning depends on the premise that the FPA's withholding of jurisdiction over generation facilities should be construed to limit FERC's rate authority in this way. But, as we will explore in Part IV, it may be plausible to view FERC's rate authority as sufficiently independent and plenary that the withholding of jurisdiction over these other matters should not preclude consideration of environmental costs within rate oversight. Under the latter view, FERC would still lack authority to regulate the siting, construction, licensing, and operations of plants. It would still, in short, have to take power plants "as it finds them." But that would not prevent it from factoring environmental costs into rate oversight.¹⁴⁰

FERC also argued that the Clean Air Act's grandfathering provisions represented a legislative judgment, with which FERC should presumably not inter-

¹³⁷ Monongahela Power Co., 39 FERC ¶ 61,350 (1987).

¹³⁸ *Id.* at 62,092-93.

¹³⁹ *Id.* at 62,097.

¹⁴⁰ FERC's restrictive view of its authority to take environmental considerations into account may reflect, in part, the heavy-handed remedies NRDC sought, including "requiring PEPCO to adopt conservation measures, to build new capacity, or to purchase power from alternative suppliers." *Id.* at 62,097-98.

ferre, to “permit” these types of plants “to continue to operate, notwithstanding environmental hazards they may pose relative to newer plants.” Yet factoring in the environmental costs of the proposed arrangement would, arguably, not require FERC to interfere with this judgment. As we will explore in Part V, it is possible to imagine mechanisms whereby FERC could address and reduce environmental hazards while allowing plants like these to continue to operate. By doing so, FERC would not be exercising a veto over the Clean Air Act. FERC would simply be complementing the regulation applying to these plants,¹⁴¹ and reserving the right to adjust the proposed rate appropriately. Such regulation might influence, but would not necessarily determine, the plant’s fate.

One could argue that, for various reasons (examined in Parts IV and V), it would be unwise or inappropriate for FERC to adopt this course, but FERC did not argue this. In light of the very real benefits that considering environmental factors could produce, FERC’s reasoning is unpersuasive.

FERC codified its position in its regulations implementing NEPA by establishing a categorical exclusion for electric rate filings submitted under sections 205 and 206 of the FPA from the need for Environmental Impact Statements (“EIS”) and Environmental Assessments (“EA”).¹⁴² Under the Council on Environmental Quality’s (“CEQ”) regulations implementing NEPA, agencies may, through appropriate procedure, categorically exclude from the need for an EIS or EA categories of actions “which do not individually or cumulatively have a significant effect on the human environment.”¹⁴³ In adopting its final rule implementing NEPA, FERC rejected the argument that electric rate filings should not be categorically excluded, simply explaining that it was adopting and codifying its position in *Monongahela*.¹⁴⁴

FERC made a more thorough case for its policy regarding environmental considerations in the course of a dispute with EPA over FERC’s NEPA duties as they applied to Order No. 888. FERC initially concluded that no EIS or EA was necessary because the regulation fell within the categorical exclusion for electric rate filings.¹⁴⁵ But it undertook an EIS at the request of several commenters, including EPA, who were concerned that promoting competition among generators could lead to an increase in harmful emissions, especially nitrogen oxides.¹⁴⁶

Although it concluded that the order “will affect air quality slightly, if at all, and that the environmental impacts are as likely to be beneficial as negative,”¹⁴⁷ FERC resisted on alternative grounds calls for it to adopt mitigation

¹⁴¹ One could perhaps view the new layer as permissible regulation complementing regulation under the Clean Air Act.

¹⁴² 18 C.F.R. § 380.4.

¹⁴³ 40 C.F.R. § 1508.4.

¹⁴⁴ Regulations Implementing National Environmental Policy Act of 1969, 52 Fed. Reg. 47,897, 47,900 (Dec. 17, 1987) (to be codified at 18 C.F.R. pts. 2, 157, 380).

¹⁴⁵ Promoting Wholesale Competition through Open Access Non-Discriminatory Transmission Services by Public Utilities, 60 Fed. Reg. 17,662, 17,721 (proposed Apr. 7, 1995).

¹⁴⁶ Order No. 888, *supra* note 82, at 21,670.

¹⁴⁷ *Id.* at 21,672.

measures.¹⁴⁸ Primarily, it asserted that it lacked the legal authority to adopt mitigation measures.¹⁴⁹ FERC characterized itself as “in essence and by law, [an] economic regulator[].”¹⁵⁰ FERC argued that the FPA excluded “the physical aspects of generation and transmission” from its jurisdiction, and stated that the agency’s actions

must derive from and advance our statutory mandate to protect consumers by establishing utility rates and business practices that are just, reasonable, and not unduly discriminatory or preferential. These authorities, however broad they are with respect to economic matters, are not unbounded; they may not be used to “fill in the gaps” of regulatory programs that, by law, are not our own.¹⁵¹

FERC elaborated by explaining its view that Parts II and III of the FPA

do not grant the Commission authority to regulate the environmental aspects of jurisdictional activities. . . . The Commission’s jurisdiction over generation extends only to matters directly related to the economic aspects of transactions resulting from such facilities.¹⁵²

FERC characterized this jurisdictional limitation as stemming “from the historical purposes for which the Commission was established,” which FERC said were twofold: (1) closing the “Attleboro gap” and (2) eliminating economic abuses that were prevalent when the FPA was enacted.¹⁵³ FERC went on to reject the notion that its mandate to regulate in the public interest gave it the sought-after environmental authority. The Commission compared the argument to the one rejected by the Supreme Court in *NAACP v. FPC* that the FPA’s “public interest” language gave the FPC the authority to prohibit racially discriminatory employment practices by entities subject to its jurisdiction.¹⁵⁴

FERC also argued that it was not feasible for it to adopt mitigation measures, claiming that it lacked the expertise to address technical aspects of the problem, such as determining a proper baseline for NO_x emissions or establishing whether emissions from a given plant contribute to ozone problems in remote locations.¹⁵⁵ EPA had the jurisdiction and expertise to address such issues, FERC said.¹⁵⁶ FERC noted that proposals that would have FERC attempt to sort out generation used for wholesale transactions versus retail transactions failed to recognize the difficulty, if not impossibility, of this task.¹⁵⁷ Here, notably, FERC added a different type of argument against such proposals, arguing that they would conflict with FERC’s own goals in Order No. 888—goals consistent

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

¹⁵¹ *Id.*

¹⁵² *Id.* at 21,683.

¹⁵³ *Id.*

¹⁵⁴ *Id.* (citing 520 F.2d 432 (D.C. Cir. 1975), *aff’d*, 425 U.S. 662 (1976)).

¹⁵⁵ *Id.* at 21,672.

¹⁵⁶ *Id.*

¹⁵⁷ *Id.* at 21,673.

with the Energy Policy Act of 1992—“to eliminate time-consuming, inefficient transaction-based approvals that impede open access and to promote entry of sellers into bulk power markets on a competitive basis.”¹⁵⁸ FERC was essentially recognizing the inherent tension between the role of economic regulator that the agency has assumed and the demands of environmental regulation of the electricity industry.

FERC further argued that for it to adopt mitigation measures might undercut the regulatory scheme of the Clean Air Act.¹⁵⁹ Here, FERC argued that the commenters’ proposals would require the Commission to rework Congress’s decisions to grandfather in the dirty coal plants, decisions that “were at the heart of the 1990 Clean Air Act compromise.”¹⁶⁰ Outside the means provided by the Clean Air Act, FERC argued, only Congress could address the issue.¹⁶¹ FERC finally claimed that for it to adopt mitigation measures, which would be limited to addressing emissions due to Order No. 888’s reforms, would detract from efforts, some already underway, to solve the NO_x emissions problem by other, more comprehensive means, such as an EPA-administered cap and trade program.¹⁶²

Following the issuance of Order No. 888, EPA referred the order to the Council on Environmental Quality, taking issue with some of the assumptions FERC made in assessing the order’s likely environmental impacts, and also suggesting that FERC should contribute to mitigation efforts if efforts under the Clean Air Act and Ozone Transport Assessment Group proved inadequate.¹⁶³ Intriguingly, FERC committed to further examining, in such an event (or if EPA undertook a Federal Implementation Plan), “what mitigation might be permissible and appropriate under the Federal Power Act.”¹⁶⁴ FERC appears not to have undertaken this inquiry, despite the persistence of NO_x problems and the issuance by EPA of Federal Implementation Plans for NO_x in 2011.¹⁶⁵

The positions FERC took in *Monongahela* and Order No. 888 remain the agency’s positions today. In 2000, the D.C. Circuit affirmed these positions in its *Crees* decision.¹⁶⁶ In the next Part of this Article, we will address and challenge most of these arguments.

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

¹⁶² *Id.* at 21,672.

¹⁶³ Order Responding to Referral to Council on Environmental Quality, 75 FERC ¶ 61,208, ¶¶ 61,688–89 (1996).

¹⁶⁴ *Id.* at ¶ 61,692.

¹⁶⁵ See Brief for the Federal Petitioners 5–13, *EPA v. EME Homer City Generation, L.P.*, No. 12-1182 (S. Ct. argued Dec. 10, 2013).

¹⁶⁶ *Grand Council of Crees (of Quebec) v. FERC*, 198 F.3d 950, 956–57 (D.C. Cir. 2000).

IV. TOWARD GREENER FERC RATE REGULATION:
A STATUTORY ARGUMENT

Having laid out FERC's position, we now set forth an argument in favor of a different policy. The broad strokes of this argument are as follows. Contrary to FERC's position, Congress has not clearly stated whether FERC may consider environmental factors in its rate regulation. Given this ambiguity, it would be permissible for FERC to change its policy, interpreting the Act as allowing it to consider environmental factors, and substantively incorporating environmental costs and benefits into its regulation. Moreover, if the FPA were interpreted to give FERC this authority, the reasoning behind FERC's categorical exclusion of its rate regulation from NEPA would no longer hold. NEPA would "kick in" and require FERC to consider the environmental consequences of its actions in this context. Although it might seem counterintuitive to argue that the agency should bind itself in this way, we hope to show how the result might be preferable as a matter of regulatory policy, including as a means for FERC to advance its own goals.

A. *FERC's Authority: An Ambiguous Matter?*

The Supreme Court established the framework for assessing agency interpretations of statutes in *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*¹⁶⁷ First we must ask "whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear . . . the agency . . . must give effect to the unambiguously expressed intent of Congress."¹⁶⁸ In determining whether Congress has specifically addressed the question at issue, we must consider the statutory provisions at issue in the context of the overall statutory scheme.¹⁶⁹ "[T]he meaning of one statute may be affected by other Acts, particularly where Congress has spoken subsequently and more specifically to the topic at hand."¹⁷⁰ If, however, "Congress has not directly addressed the precise question at issue, the question . . . is whether the agency's answer is based on a permissible construction of the statute."¹⁷¹ A court's prior judicial construction of a statute trumps an agency construction otherwise entitled to *Chevron* deference "only if the prior court decision holds that its construction follows from the unambiguous terms of the statute and thus leaves no room for agency discretion."¹⁷²

¹⁶⁷ 467 U.S. 837 (1984).

¹⁶⁸ *Id.* at 842–43.

¹⁶⁹ *Food & Drug Admin. v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132–33 (2000).

¹⁷⁰ *Id.* at 133.

¹⁷¹ *Chevron*, 467 U.S. at 843.

¹⁷² *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 982 (2005).

i. The FPA's Text

Three provisions of the FPA are particularly relevant in determining whether Congress addressed the question of whether FERC may consider environmental factors in its rate regulation: sections 201, 205, and 206 (sections 824, 824d, and 824e in the U.S. Code). These provisions do not state, nor arguably even suggest, that FERC should ignore environmental factors in its rate regulation. In fact, taken together, the provisions can plausibly be read as harmonious with consideration of environmental factors.

The declaration of policy in section 201 states that “the business of transmitting and selling electric energy for ultimate distribution to the public is affected with a public interest, and that Federal regulation of matters relating to generation to the extent provided in this subchapter . . . and of that part of such business which consists of” interstate transmission and wholesale sales in interstate commerce is “necessary in the public interest”¹⁷³ Two things in particular jump out about this language for our purposes—one weighing in favor of, and one perhaps weighing against, an environmentally inclusive reading. In favor is the public orientation of the public interest language, suggesting a compatibility with a regulatory approach that would consider not just the private costs and benefits of electricity sales and transmission, but also their externalities—with environmental externalities being perhaps the most significant of the externalities associated with the electricity industry.¹⁷⁴ Weighing on the opposite side of the scale is the provision’s focus on the “business” of transmitting and selling electricity, which arguably supports the type of interpretation the D.C. Circuit reached in the *Crees* case, that the statute is focused on antitrust concerns.¹⁷⁵

FERC has rejected the view that the public interest language licenses it to consider environmental factors. It compared the argument to one rejected by the Supreme Court, that the same language gave the FPC the authority to prohibit racially discriminatory employment practices by entities subject to its jurisdiction.¹⁷⁶ There, the Court held that the public interest language is not a “broad license to promote the general public welfare. Rather, the words take meaning from the purposes of the regulatory legislation.”¹⁷⁷ The main purpose of the legislation, the Court said, was “to encourage the orderly development of plentiful supplies of electricity . . . at reasonable prices.”¹⁷⁸ The public interest language was a charge to the same effect, the Court said, noting that “the par-

¹⁷³ 16 U.S.C. § 824(a).

¹⁷⁴ See *Knee*, *supra* note 15, at 764–73 (arguing that environmental costs and benefits are relevant to the principles of cost minimization, nondiscrimination, and adequate service that have informed economic regulation of electric utilities).

¹⁷⁵ See *Grand Council of Crees (of Quebec) v. FERC*, 198 F.3d 950, 957–58 (D.C. Cir. 2000).

¹⁷⁶ Order No. 888, *supra* note 82, at 21,683 (citing 520 F.2d 432 (D.C. Cir. 1975), *aff'd*, 425 U.S. 662 (1976)).

¹⁷⁷ *NAACP v. FPC*, 425 U.S. 662, 669 (1976).

¹⁷⁸ *Id.* at 669–70. Among the statute’s “subsidiary” purposes, the Court said, was the Commission’s authority to consider conservation and environmental questions, but here the only FPA provisions the Court cited were ones dealing with hydropower. See *id.* at 670, n.6.

ties point to nothing in the [FPA or the Natural Gas Act] or their legislative histories to indicate that the elimination of employment discrimination was one of the purposes” behind the statutes.¹⁷⁹

The argument advanced by the NAACP seems distinguishable from the argument that the public interest language supports a claim of authority by FERC to consider environmental factors. The environmental impacts of the electricity industry can more plausibly be viewed as an integral aspect of the “orderly production of plentiful supplies of electric energy . . . at just and reasonable rates.”¹⁸⁰ This is in part because of the enormous environmental impacts of the industry, which is a disproportionate polluter compared to other U.S. industries. Another distinguishing factor is the clearer causal relationship that exists between electricity rates and environmental consequences than that between rates and employment practices.¹⁸¹

Moving on to sections 205 and 206 (sections 824d and 824e), which grant FERC its specific rate regulation authority, we can see that the language of these provisions, like the language of other New Deal-era organic statutes,¹⁸² is broad in what it subjects to FERC jurisdiction (“all rates and charges . . . for or in connection with . . . and all rules and regulations affecting or pertaining to;” “any rate, charge, or classification; any rule, regulation, practice, or contract affecting such rate, charge, or classification”) and vague in the standards it demands (“just,” “reasonable,” “undue prejudice or disadvantage”).¹⁸³ The statute does not specify how FERC should give meaning to these standards. Rather, the language leaves the Commission a great amount of discretion and seems capacious enough to allow for consideration of environmental factors.¹⁸⁴

FERC’s rate regulation power is, however, limited to wholesale sales and transmission of electricity in interstate commerce.¹⁸⁵ And section 201 contains further language limiting FERC’s jurisdiction. It excludes jurisdiction “over facilities used for the generation of electric energy or over facilities used in local distribution or only for the transmission of electric energy in intrastate commerce, or over facilities for the transmission of electric energy consumed wholly by the transmitter,”¹⁸⁶ and it reserves authority for the states.¹⁸⁷ But

¹⁷⁹ *Id.* at 670.

¹⁸⁰ *Id.*

¹⁸¹ For example, a coal power company clearly benefits vis-à-vis a wind power company when GHG costs are not internalized into electricity rates, and electricity consumption and pollution will be higher when electricity is cheaper. By contrast, the effect of discriminatory employment practices on rates, and vice versa, would likely be less clear. *See also* Knee, *supra* note 15, at 764–73.

¹⁸² *E.g.*, 15 U.S.C. §§ 41–58 (FTC Act).

¹⁸³ 16 U.S.C. §§ 824d(a)–(b); § 824e(a) (2012).

¹⁸⁴ Contrast this language with the statutory provisions at issue in *Department of Transportation v. Public Citizen*, 541 U.S. 752 (2004). There, the Supreme Court held that the Federal Motor Carrier Safety Administration lacked discretion under its statutory mandate to regulate emissions from motor vehicles. *Id.* at 766–67. The statute directed that “the Secretary of Transportation shall register” persons meeting a set list of specific criteria. *Id.* (quoting 49 U.S.C. § 13902(a) (2006)). The criteria were on the whole much more specific, leaving much less room for discretion, than the “just and reasonable” and “public interest” criteria that FERC must apply.

¹⁸⁵ 16 U.S.C. § 824(b).

¹⁸⁶ 16 U.S.C. § 824(a).

these limitations should be construed as constraining what FERC could do in incorporating environmental considerations, not as clearly precluding FERC from doing so. In the following paragraphs, we elaborate this point in criticizing a crucial argument FERC has made regarding section 201's limiting language and in justification of excluding environmental considerations. We then criticize a second crucial argument FERC has made regarding its rate regulation authority.

1. *How Considering Environmental Factors Could Be Consistent with Section 201*

FERC has argued that incorporating environmental considerations into rate oversight would *necessarily* be tantamount to exercising authority over siting, construction, licensing, and operation of generation facilities, violating the FPA's withholding of jurisdiction over facilities used for generation.¹⁸⁸ FERC's interpretation of this limiting provision as concerning matters such as siting, construction, licensing, and operation seems reasonable. The rest of FERC's argument, however, is weak.

It is important to distinguish between *authority* and mere *influence* over the siting, construction, licensing, and operation of generation facilities. FERC already exercises considerable influence over what, when, where, and how generation and transmission get built and how they are operated. For FERC to consider environmental factors would only change the nature, and perhaps increase the degree, of its influence over these matters. The D.C. Circuit recognized FERC's influence over such matters in a 2009 case in which it held that FERC had jurisdiction over ISO New England's ("ISO NE") "installed capacity requirement" ("ICR").¹⁸⁹ The ICR represented an estimate of the amount of generation capacity that needed to be maintained in the New England region to meet peak demand and ensure grid reliability.¹⁹⁰ ISO NE used this figure to structure an auction in which generators and other capacity providers submitted bids to provide capacity, with the net effect being that the installed capacity requirement influenced the prices these providers would be paid.¹⁹¹ The Connecticut Public Utility Commission ("PUC") argued that FERC lacked jurisdiction to review or change the ICR because, it asserted, any increase in the ICR required building more capacity when decisions to build new generation were traditionally left to the states under the FPA.¹⁹² The D.C. Circuit rejected the argument, disagreeing with the premise that ICR increases *required* addi-

¹⁸⁷ 16 U.S.C. § 824(b). Even though the statute does not similarly withhold jurisdiction from FERC over *interstate* transmission facilities, "[t]he states have traditionally assumed all jurisdiction to approve or deny permits for the siting and construction of [all] electric transmission facilities." *Piedmont Envtl. Council v. FERC*, 558 F.3d 304, 310 (4th Cir. 2009). Amendments to the FPA, however, have given FERC certain limited powers to supersede states in this area. *Id.*

¹⁸⁸ See *supra* Part III.

¹⁸⁹ *Conn. Dept. of Pub. Util. Control v. FERC*, 569 F.3d 477, 479 (D.C. Cir. 2009).

¹⁹⁰ *Id.* at 480.

¹⁹¹ *Id.*

¹⁹² *Id.* at 481.

tional capacity.¹⁹³ Rather, the court explained, state and municipal authorities retained the ultimate right to say what capacity, and what type of capacity, got built.¹⁹⁴ The ICR merely affected incentives to develop generation resources, and FERC, the court explained, could *directly* set the price of capacity precisely to incentivize such development if it wanted to.¹⁹⁵ FERC's review of the ICR was thus not direct regulation of generation facilities in violation of the FPA.¹⁹⁶

Order No. 1000 is an example of how FERC is increasingly asserting authority to influence matters of siting and licensing of facilities, both transmission and generation.¹⁹⁷ Indeed, in challenging Order No. 1000, utilities are arguing that FERC is impermissibly regulating siting through its oversight of transmission planning processes and its cost allocation reforms.¹⁹⁸ FERC responds that “[w]hile Order No. 1000’s planning and cost allocation processes may influence . . . state approvals [of projects selected in regional transmission plans], that is a permissible byproduct of the Commission’s legitimate exercise of its authority to regulate interstate transmission.”¹⁹⁹ Whether the utilities will prevail on these arguments remains to be seen, but Order No. 1000 shows that FERC is increasingly asserting such influence.²⁰⁰

An additional problem with FERC’s argument is that it performs a sleight of hand by hiding the fact that environmentally agnostic regulation may have just as much influence over the siting, construction, licensing, and operation of generation as would environmentally conscious regulation. For example, by *not* incorporating GHG externalities into its rate regulation, FERC influences decisions about what generation should be built just as much as it would by *incorporating* these externalities. The effect of its exclusion of the externalities is simply to give GHG-intensive generation, such as coal, an advantage vis-à-vis cleaner energy, such as wind. FERC’s argument commits a common fallacy—it ignores how government regulation (in this case, FERC’s current approach) already influences the existing state of affairs, and wrongly views the status quo

¹⁹³ *Id.*

¹⁹⁴ *Id.*

¹⁹⁵ *Id.*

¹⁹⁶ *Id.* at 482.

¹⁹⁷ See *supra* Part II.B for description of the order.

¹⁹⁸ See, e.g., Order No. 1000, *supra* note 94, at 49,856, 49,906.

¹⁹⁹ Brief of Respondent Fed. Energy Regulatory Comm’n at 24, S.C. Pub. Serv. Auth. v. FERC, Nos. 12-1232, et al. (D.C. Cir., Sept. 25, 2013).

²⁰⁰ Contrast those actions with an established example of impermissible overreach by FERC. In *Piedmont Environmental Council v. FERC*, the Fourth Circuit held that FERC lacked authority to permit construction of a transmission line in a national interest electric transmission corridor when a state with jurisdiction over the proposed line had affirmatively denied a permit, even though the FPA, pursuant to amendments by the Energy Policy Act of 2005 (“EPAct”), gave FERC power to issue such a permit when the state delayed or failed to act on a permit application. 558 F.3d 304, 313 (4th Cir. 2009). Arguably implicit in the Fourth Circuit’s ruling (and the EPAct itself) is the premise that no other part of the FPA grants FERC such affirmative permitting power. See *id.* at 310 (“The states have traditionally assumed all jurisdiction to approve or deny permits for the siting and construction of electric transmission facilities.”). FERC’s action in *Piedmont* could thus be seen as a direct and unilateral exercise of authority over the siting, construction, and licensing of a transmission facility, in violation of not just the EPAct provisions but all of its combined statutory authority.

as a neutral baseline not actively shaped by regulation. Although considering environmental factors in this way would entail increased regulation in the sense that it would require more work by FERC and by industry to comply with the regime, it would, in an important sense, not increase FERC's influence over siting, construction, licensing, and operation of generation facilities, but would merely revise the nature and direction of FERC's influence over these matters.

Finally, Supreme Court rulings suggest that FERC's arguments in defense of its current policy may understate the extent of the agency's authority under sections 205 and 206 and overstate the importance of section 201's limitations. In *FPC v. Southern California Edison Co.*,²⁰¹ the Court held that FERC's authority under the FPA is plenary vis-à-vis the states unless Congress explicitly states otherwise.²⁰² The limiting provisions of section 201 must be read alongside the plenary grants of authority in these sections. The Court has also circumscribed the significance of section 201's provision reserving powers for the states, describing it as "a mere policy declaration that cannot nullify a clear and specific grant of jurisdiction [in the FPA], even if the particular grant seems inconsistent with the broadly expressed purpose."²⁰³

2. *Environmental Considerations As Economic Considerations*

FERC has also interpreted its jurisdiction over generation to "extend [] only to matters directly related to the economic aspects of transactions resulting from such facilities."²⁰⁴ This functional-jurisdictional argument echoes a traditional utility-regulation distinction between private/economic concerns and public/non-economic concerns.²⁰⁵ The economic/non-economic distinction and FERC's argument invoking it, however, are vulnerable on several grounds. First, in today's dominant regulatory and policy paradigm, the environmental consequences of electricity generation *are* "matters directly related to the economic aspects" of such transactions. The extent of these consequences is largely a function of the prices at which the transactions occur, and the corresponding incentives created. Moreover, the environmental consequences produce real economic costs.²⁰⁶ Second, the narrowness of FERC's interpretation of its jurisdiction is arguably unwarranted. The FPA charges FERC with ensuring that rates, charges, rules, regulations, classifications, practices, and contracts related to wholesale sales and interstate transmission of electricity are "just and reasonable" and not "unduly discriminatory or preferential" and gives no further guidance as to what these vague standards mean. Thus, FERC's interpretation does not unambiguously follow from the terms of the statute. The legislative history behind the FPA perhaps provides more support for FERC's

²⁰¹ 376 U.S. 205 (1964).

²⁰² *Id.* at 215–16.

²⁰³ *New York v. FERC*, 535 U.S. 1, 22 (2002) (internal quotations and citations omitted).

²⁰⁴ Order No. 888, *supra* note 82, at 21,683.

²⁰⁵ See James J. Hoecker, *The NEPA Mandate and Federal Regulation of the Natural Gas Industry*, 13 *ENERGY L.J.* 265, 311 n.1 (1992).

²⁰⁶ FERC seems to have a narrow view of the "economic aspects" of the relevant transactions as being limited to the private cost to the electricity consumer, i.e., as excluding externalities.

position,²⁰⁷ but FERC's position is weak if it depends so heavily on legislative history, especially if, as we will argue, other factors weigh against its position.

Notably, FERC has interpreted other, closely related parts of the FPA—which seem just as focused on economic considerations as the FPA's rate provisions—not to preclude consideration of environmental factors. Section 203 gives FERC power over mergers by jurisdictional utilities and charges FERC with approving these mergers if it finds that the proposed transaction (A) “will be consistent with the public interest” and (B) will meet certain other economic criteria specified in the statute.²⁰⁸ Although FERC generally excludes merger review from the need for an environmental assessment or environmental impact statement on the grounds that mergers generally do not produce significant impacts on the environment, it has conducted EAs for proposed mergers in the past when it found they could have significant environmental impacts.²⁰⁹

Thus, the text of the FPA should arguably not be interpreted to preclude FERC from incorporating environmental considerations into its rate regulation. Rather, the text could be understood as being ambiguous about whether FERC may incorporate such considerations.

ii. *The FPA's Legislative History*

FERC may be on its soundest footing when it appeals to the legislative history of the FPA to argue against the notion that it may incorporate environmental considerations into its rate regulation. A review of the legislative history pertaining to the statute's rate provisions reveals no discussion of environmental considerations. FPC Solicitor Dozier DeVane, a drafter of an early version of the bill, summarized Part II of the FPA as having two main objectives: complementing state regulation of rates, and achieving regional coordination of electricity systems.²¹⁰ The main rate-related concern of the members of the Senate and House interstate commerce commissions was the possibility that utilities were charging excessive, monopolistic rates to consumers.²¹¹ There is even language supporting *Hope's* idea that the statute was meant to be limited to balancing the consumer and investor interests.²¹² Conservation, when it is brought up, refers primarily to conservation of fossil fuel resources for preventing their waste.²¹³ None of this is surprising given the very different conceptions of mankind's relationship to the environment that prevailed at the time.

One response to the thrust of this legislative history is that incorporation of environmental considerations actually advances the two purposes that DeVane

²⁰⁷ See *infra* Part IV.A.ii.

²⁰⁸ 16 U.S.C. § 824b (2012).

²⁰⁹ E.g., *S. Cal. Edison Co. & San Diego Gas & Elec. Co.*, 49 FERC ¶ 61,091, 61,357 (Oct. 27, 1989).

²¹⁰ *Public Utility Holding Companies: Hearings Before the Comm. on Interstate and Foreign Commerce on H.R. 5423*, 74th Cong. 549 (1935).

²¹¹ See *id.* at *passim*; *Public Utility Holding Company Act of 1935: Hearings Before the Comm. on Interstate Commerce on S. 1725*, 74th Cong. *passim* (1st Sess. 1935).

²¹² See, e.g., *id.* at 252, 264.

²¹³ *Id.* at 664.

identified, particularly that of achieving regional coordination of electricity systems. For example, renewable energy and reduction of carbon emissions are driving much of the need for new transmission today.²¹⁴ Yet states and utilities are having difficulties agreeing on the costs and benefits of these projects, including benefits from compliance with renewable energy mandates, and how to allocate them.²¹⁵ One way that Order No. 1000 tries to solve this problem is to mandate consideration of public policy requirements—requirements largely having to do with clean energy procurement—in regional transmission planning.²¹⁶ Thus, in effect, FERC is trying to improve regional coordination of electricity systems by requiring consideration of largely environmentally driven laws. More direct consideration of environmental factors by FERC could streamline and facilitate this coordination process.

A second response is that legislative history should not hinder the flexibility that *Chevron* gives agencies—flexibility that they arguably need—to adapt statutes to changing or particular circumstances.²¹⁷ That applies with great force here, since environmental issues are now widely seen as central to the task of developing the electricity industry intelligently and for the future.

iii. *What About EPA?*

As noted above, the entire U.S. Code is potentially relevant at step one of the *Chevron* inquiry.²¹⁸ One argument against interpreting the FPA to give FERC the authority to consider environmental factors in its rate regulation is the argument that Congress has through other legislative actions, such as giving EPA wide-ranging environmental regulatory authority, expressed an intent to preclude this authority from FERC. In *Brown & Williamson*, the Supreme Court held that Congress's actions, taken as a whole, made it clear that it intended to withhold jurisdiction from the FDA to regulate tobacco, ruling against the FDA's arguments that its own statutory mandates gave it authority to regulate the drug.²¹⁹

A problem with this argument, however, is that NEPA has established a strong policy in favor of not just encouraging but requiring all federal agencies

²¹⁴ See Order No. 1000, *supra* note 94, at 49,849.

²¹⁵ See *id.* at 49,850 (citing a characterization by the Brattle Group), 49,857, 49,921; see also *Ill. Commerce Comm'n v. FERC*, 721 F.3d 764, 773 (7th Cir. 2013).

²¹⁶ See Order No. 1000, *supra* note 94, at 49,845–46 (summarizing the order's mandate), 49,857 (noting how better regional planning could more cost-effectively integrate renewable energy resources required by public policy requirements).

²¹⁷ Cf. Cass R. Sunstein, *Justice Scalia's Democratic Formalism*, 107 *YALE L.J.* 529, 533, 552–53 (1997) (arguing that administrative agencies are more politically accountable and have greater expertise in interpreting and applying their statutes than are courts, and arguing for discretion for agencies to engage in “statutory adaptation”); Freeman & Spence, *supra* note 21 (arguing that “congressional dysfunction invites agencies and courts to do the work of updating statutes,” that “agencies are better suited than courts to do that updating work,” and that “the case for deferring to agencies in that task is stronger than ever with Congress largely absent from the policymaking process”).

²¹⁸ *Food & Drug Admin. v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132–33 (2000).

²¹⁹ *Id.* at 143–56.

to consider the environmental consequences of their regulatory actions.²²⁰ To compare the situation with that of *Brown & Williamson*, imagine if in that case Congress had passed a landmark law instructing all federal agencies to consider the consequences of their regulatory actions on tobacco consumption and its resulting detriment to public health. Imagine that the law also says that “to the fullest extent possible . . . the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with” a policy of reducing tobacco consumption and promoting public health.²²¹ Even if some other agency had been specifically and thoroughly (but not exclusively) tasked with regulating tobacco, it would seem contrary to Congress’s intent to preclude the FDA from at least considering the consequences of its actions on tobacco consumption, and possibly even substantively regulating tobacco. Although it is true that NEPA’s procedural requirements are distinct from a substantive statutory license or mandate to incorporate environmental considerations into an agency’s regulation, might not our imaginary tobacco NEPA-parallel have nevertheless given the FDA the boost it needed to tip the 5-4 result in *Brown & Williamson* in its favor? Thus, if we accept the premise that the FPA itself does not preclude FERC from considering environmental factors in its rate regulation, then in light of NEPA, it seems dubious that Congress has otherwise precluded FERC from adopting this policy.

Moreover, FERC could limit its consideration of environmental factors in various ways to lessen the bite of this argument. For example, FERC could limit itself to addressing environmental problems that Congress has not indicated it wishes to be addressed exclusively by other means, or to those that fall within FERC’s special institutional competence, or to those that meet both of these conditions. Under such an approach, FERC might want to refrain from internalizing into wholesale electricity rates the environmental costs associated with traditional criteria air pollutants, on the grounds that the CAA arguably

²²⁰ See 42 U.S.C. § 4331 (2006) (stating that “it is the continuing responsibility of the Federal Government . . . to use all practicable means and measures . . . in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans” and “to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may” achieve various environmental goals, including intergenerational equity and “enhanc[ing] the quality of renewable resources”); see also *id.* § 4332 (“[T]o the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this chapter, and (2) all agencies of the Federal Government shall—

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man’s environment;

(B) identify and develop methods and procedures . . . Which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking *along with economic and technical considerations*.”

(C) [perform environmental impact statements for “major Federal actions significantly affecting the quality of the human environment”]) (emphasis added).

²²¹ *Cf.* 42 U.S.C. § 4331 (2006).

gives EPA exclusive authority to regulate such air pollutants. It could focus on reforming aspects of the electricity industry over which it has the most, if not exclusive, authority, such as interstate transmission planning and wholesale rate structures, and which have important systemic environmental consequences.²²² Interagency consultation and coordination between FERC and EPA and other environmental regulators could serve as another useful way for FERC to limit its environmental interventions to areas where they would be most helpful.²²³ (In Part V we discuss how this type of coordination could significantly improve regulation of the electricity industry.) FERC could expressly announce its intent to adopt such limiting measures in announcing its new policy of taking environmental considerations into account.

iv. *The Brand X Inquiry*

A rule of administrative law laid out in *National Cable & Telecommunications Ass'n v. Brand X Internet Services*²²⁴ dictates that we also consider the way courts have interpreted the relevant provisions of the FPA. *Brand X* held that a court's prior judicial construction of a statute trumps an agency construction otherwise entitled to *Chevron* deference "only if the prior court decision holds that its construction follows from the unambiguous terms of the statute and thus leaves no room for agency discretion."²²⁵ In *Hope Natural Gas*, the Supreme Court interpreted parallel provisions of the Natural Gas Act, setting the foundation for what factors would be deemed proper for FERC to consider in its rate regulation.²²⁶ On the one hand, the Court endorsed a policy of allowing the FPC wide discretion to regulate rates, saying that it was not the methodology or "theory" of the FPC's approach but its result or "impact" that the courts should review.²²⁷ On the other hand, the Court laid out a clear principle that the fixing of "just and reasonable rates" under the NGA "involves a balancing of the consumer and investor interests,"²²⁸ and does not encompass the type of public interest considerations that Justices Jackson and Frankfurter thought the FPA required the Commission to consider, such as the "impoverishment of future generations" through excessively rapid depletion of limited natural gas resources.²²⁹ The D.C. Circuit relied on the *Hope* consumer/investor interest principle in rejecting the argument that FERC should have considered

²²² The type of consequences we primarily have in mind here is not the immediate land and wild-life impacts of transmission line construction—impacts that are already regulated by other government agencies—but the broader, systemic impacts associated with the different energy mixes made possible by different grid arrangements.

²²³ Cf. generally Jody Freeman & Jim Rossi, *Agency Coordination in Shared Regulatory Space*, 125 HARV. L. REV. 1131 (2012) (discussing interagency decision-making and its benefits).

²²⁴ 545 U.S. 967 (2005).

²²⁵ *Id.* at 982.

²²⁶ See *supra* Part III.A for a description of the case.

²²⁷ 320 U.S. 591, 602 (1944).

²²⁸ *Id.* at 603.

²²⁹ *Id.* at 656–57 (Jackson, J., dissenting).

the environmental consequences of a decision it made to authorize market-based electricity sales.²³⁰

There are a number of arguments why *Hope* should not preclude FERC from considering the environmental factors of its rate regulation. First of all, a court's interpretation of an agency statute is binding "only if the prior court decision holds that its construction follows from the unambiguous terms of the statute and thus leaves no room for agency discretion."²³¹ The point of this rule is to avoid the "ossification of large portions of our statutory law" that would result from "precluding agencies from revising unwise judicial constructions of ambiguous statutes."²³² First, *Hope* was addressing the NGA, and it did not address the specific question of whether the parallel language of that act gave the FPC authority to consider environmental factors. Second, the *Hope* majority did not explicitly state that the NGA was unambiguous on the question of what interests it encompassed. To this effect, it is worth noting that, just one year before *Hope*, the Supreme Court held that the NGA's "requirements of 'just and reasonable' embrace *among other factors* two phases of the public interest: (1) the investor interest; (2) the consumer interest."²³³ The Court did not say what these other factors were, but the statement suggests that the NGA, like the FPA, is far from unambiguous about encompassing and protecting only the investor and consumer interests. The FPA's ambiguity on this point is actually highlighted by the D.C. Circuit's much more recent ruling on the FPA in *Crees*. Although the court cited *Hope* in support of its own, similarly narrow reading of the FPA, it also based its holding on deference to FERC's position and a general policy of allowing FERC wide discretion in regulating rates.²³⁴ In doing so, the court invoked *Chevron* and effectively implied that the FPA was silent on the very issue on which *Hope* purported to find the NGA's parallel provisions to have spoken.²³⁵ Third, reducing excessive environmental costs is, arguably, in the interests of consumers and even investors too.²³⁶

It may also be possible to limit the holding of *Hope* on the grounds that the non-consumer/investor interest that West Virginia was asking the FPC to protect was the state's own, rather narrow economic self-interest. If we are considering whether FERC should have authority to consider the effects of its rate regulation on GHG emissions, for example, then the nation's—indeed, the whole world's—grave interest in preventing or limiting climate change would seem a far more compelling candidate for FERC consideration under the FPA's "public interest" language. *Hope* and its progeny, such as *Crees*, should argua-

²³⁰ Grand Council of the Crees (of Quebec) v. FERC, 198 F.3d 950, 957–58 (D.C. Cir. 2000); see also *supra* Part III.A.

²³¹ Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs., 545 U.S. 967, 982 (2005).

²³² *Id.* at 983.

²³³ Fed. Power Comm'n v. Natural Gas Pipeline Co. of Am., 315 U.S. 575, 606–07 (1942) (emphasis added).

²³⁴ Grand Council of Crees, 198 F.3d at 957–58.

²³⁵ *Id.* (citing *Chevron's* rule about "congressional silence" in the context of settling the FPA question).

²³⁶ See Knee, *supra* note 15, at 764–73.

bly not be a barrier to FERC's ability to change course and consider environmental factors in its rate regulation.

B. Room for Change, and a Better Way

If the FPA and other statutes taken together do not clearly preclude FERC from taking environmental considerations into account in its rate regulation, it still must be established that environmentally conscious rate regulation would be reasonable under the FPA,²³⁷ and that FERC could change its long-standing policy without the action being deemed arbitrary and capricious. In *FCC v. Fox Television Stations, Inc.*,²³⁸ the Supreme Court established important principles governing agencies' discretion to change policy positions. The Court rejected the notion that agency action should, under the Administrative Procedure Act,²³⁹ necessarily be subject to a heightened standard of review when the action represents a reversal in policy.²⁴⁰ The Court explained that the agency must "show that there are good reasons for the new policy. But it need not demonstrate to a court's satisfaction that the reasons for the new policy are *better* than the reasons for the old one" ²⁴¹ When, however, an agency's new policy "rests upon factual findings that contradict those which underlay its prior policy . . . [o]r when its prior policy has engendered serious reliance interests that must be taken into account . . . ," the agency must provide a reasoned explanation for "disregarding facts and circumstances that underlay or were engendered by the prior policy."²⁴²

FCC v. Fox thus generally supports agency discretion in adopting new policy positions and interpretations of statutes they administer, but suggests (in dicta) that agencies do need to provide detailed justifications for policy reversals that rest on factual findings contradicting those that underlay the prior policy or when the prior policy has engendered serious reliance interests. Accordingly, FERC would likely need to provide a reasoned explanation for its turnaround, given that the move would represent a major shift in policy from one that, it would seem, has engendered serious reliance interests on the part of the electricity industry, such as investment in projects under the expectation that FERC would not take these projects' environmental consequences into account in its rate regulation. The reviewing courts would be likely to require "a reasoned explanation . . . for disregarding facts and circumstances that underlay or were engendered by the prior policy."²⁴³

We now present an argument for how FERC could meet this burden and that of *Chevron* step two. The argument for why our proposal would be a reasonable, indeed superior, interpretation of the statute's language should be

²³⁷ See *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843 (1984).

²³⁸ 556 U.S. 502 (2009).

²³⁹ 5 U.S.C. §§ 701–706 (2012).

²⁴⁰ *Fox*, 556 U.S. at 514.

²⁴¹ *Id.* at 515–16 (citations omitted).

²⁴² *Id.* (citations omitted).

²⁴³ *Id.* (citations omitted).

somewhat evident in light of the preceding discussion, but can be summarized succinctly here: If we broadly conceive the public interest that FERC is supposed to serve, FERC-jurisdictional rates would be far more just and reasonable if they did not result in the imposition of excessive environmental costs on society and did not favor GHG-intensive generation over cleaner energy solutions. Moreover, as we will demonstrate, the policy reasons for the agency to take a new course are compelling. Some of the reasons we provide are specific to the unprecedented crisis and challenge of climate change, which FERC could play a valuable role in addressing. But we also offer more general reasons relating to the need to bridge the old-fashioned divide between “economic” and “environmental” energy regulation—a project that could help us address issues other than climate change, including unforeseen energy challenges of the future—and to bring FERC regulation in line with positive federal regulatory trends toward incorporating environmental considerations into regulatory decision-making. Finally, it is relevant that courts have approved radical changes in policy and FPA interpretation by FERC in the past, demonstrating the broad deference granted to FERC.

i. The Benefits of Integrated Environmental-Energy Regulation

Our federal regulatory approach to the electricity industry is fundamentally schizophrenic. Lincoln Davies has described the problem well in the context of discussing the split between environmental law and energy law more broadly:

It is one of the most important—and unspoken—paradoxes of the modern American regulatory state: Energy law and environmental law rarely, if ever, merge. The fact that energy and environmental law do not work together has massive implications for the nation’s future, particularly if we aim to curb our addiction to oil. Suggestions for how to change our energy trajectory are not in short supply. We need a smarter grid, and more of it. We need new transmission rules, and better ways of resolving siting conflicts. We need different transportation technologies, and better incentives for transitioning to them. We need to halt climate change, and move to electricity production that helps us do so. We need to reduce energy demand, and change our behavior to shift that curve. We need more efficiency, and fast. . . . Yet such specific policy reforms, as necessary as they are, do not take into account . . . the disjunction between energy and environmental law.²⁴⁴

Davies categorizes the deficiencies that result from the fissure between energy and environmental law as (1) inefficaciousness, (2) inefficiency, (3) foregone

²⁴⁴ Lincoln L. Davies, *Alternative Energy and the Energy-Environment Disconnect*, 46 IDAHO L. REV. 473, 474–75 (2010).

synergies, and (4) incompleteness.²⁴⁵ His taxonomy is useful to us, as it captures the deficiencies in FERC's current approach to regulation of the electricity industry.

Inefficaciousness occurs when one area undermines the effectiveness of the other.²⁴⁶ The conflict between FERC and EPA over Order No. 888 illustrates this phenomenon. EPA was concerned that FERC's open-access transmission reforms would lead to an increase in NO_x emissions, directly undermining efforts to control the emissions. FERC's self-positioning as a purely "economic" regulator often puts the Commission's goals and policies in direct tension with the environmental goals and policies of other regulation.

Inefficiency occurs when the fields advance their objectives, but in a way that is costlier than necessary.²⁴⁷ An example Davies provides is the co-existence of renewable energy credits and GHG credit programs:

The use of both RECs [renewable energy credits] and GHG credits should help ameliorate climate change. Nevertheless, there is a question of the most efficient way to achieve this objective: RECs alone, GHG credits alone, some combination of the two, or a different approach altogether. Were both programs administered jointly, the likelihood of making the right assessment would be much higher. . . . As it is today, however, there is no such assessment. State legislatures mandate REC use, but the federal government is the focus for climate change legislation.²⁴⁸

FERC, it should be noted, is wading tangentially into the waters of REC programs through Order No. 1000's requirement that transmission planning processes consider state public policy requirements (such as RECs), even as EPA proceeds with its proposals to regulate GHGs from stationary sources. The potential for EPA's initiatives to vie with the states' existing and ongoing initiatives in an inefficient way is obvious. Were FERC to take an environmentally inclusive approach, it could perhaps play a useful role in reducing the inefficiencies of this emerging dual federal-state regulatory regime.

Foregone synergies, which seem closely related to inefficiency, represent the loss of "potential *added* benefit of regulating a common subject in a coordinated way."²⁴⁹ Here, Davies observes how EPA has considerable institutional knowledge dealing with emissions trading schemes from its SO₂ cap-and-trade program, whereas FERC (as discussed earlier) knows a great deal about wholesale electricity markets. Imagine that some kind of comprehensive federal emissions or clean energy trading scheme were put into place: "FERC staffers could draw on the experience of EPA employees who also were involved in

²⁴⁵ *Id.* at 500.

²⁴⁶ *See id.*

²⁴⁷ *Id.* at 501.

²⁴⁸ *Id.* (citations omitted).

²⁴⁹ *Id.*

SO₂ markets, and the EPA employees in turn might better administer the markets they oversee based on FERC's knowledge of electricity markets.²⁵⁰

Finally, incompleteness occurs when the fields fail to address critical questions that they might be more likely to take up if the fields were combined.²⁵¹ Davies describes in general terms the types of important challenges that an integrated approach to energy and environmental regulation might pursue, such as transitioning to renewable energy, achieving energy efficiency and conservation, changing the way energy is priced and used, and targeting our culture of dependence on fossil fuels.²⁵² More concretely, FERC might, for example, undertake with EPA and other agencies a comprehensive analysis of the electricity industry, identifying critical environmental challenges and opportunities for intervention.²⁵³ The agencies might establish an efficient division of labor for tackling these challenges, with each agency focusing on its own area of expertise but also cooperating with other agencies to achieve regulatory synergies. FERC could undertake an analysis, for example, of how various rate structures in the industry encourage or discourage consumption of electricity versus conservation and investment in energy efficiency, and could seek to guide rate structures to reduce environmental costs and maximize overall welfare.²⁵⁴ Many states are now experimenting with policies along these lines,²⁵⁵ but there may be a valuable role for FERC to play in complementing these efforts.

Davies acknowledges the possibility that the division between environmental and energy regulation is actually a felicitous and "careful legislative balance of competing, yet equally valid, economic and environmental considerations."²⁵⁶ But he concludes that "[g]iven how separately the two fields operate, however, that case is a hard one to make. Instead, it looks much more like inefficaciousness."²⁵⁷ Davies' and our analysis and examples illustrate why this is the case: Quite simply, the benefits to the nation from environmentally inclusive FERC regulation seem far greater than the potential downside.²⁵⁸

²⁵⁰ *Id.* (citations omitted).

²⁵¹ *Id.*

²⁵² *Id.* at 504 (citations omitted).

²⁵³ *Cf. generally* Freeman & Rossi, *supra* note 223 (discussing interagency decision-making and its benefits).

²⁵⁴ Decoupling of utility revenues from sales of energy is an example of a rate-structure reform aimed at increasing utilities' incentives to invest in energy efficiency and conservation. *See generally* *Decoupling: Incentives for Energy Savings*, REGULATORY ASSISTANCE PROJECT, <http://perma.cc/ZN5-4DKM>.

²⁵⁵ *See* FERC, RENEWABLE POWER & ENERGY EFFICIENCY: ENERGY EFFICIENCY RESOURCE STANDARDS (EERS) AND GOALS (2011), *available at* <http://perma.cc/CS8P-TXMR>.

²⁵⁶ Davies, *supra* note 244, at 502.

²⁵⁷ *Id.*

²⁵⁸ These potential downsides include further costly regulation, superfluous regulation, conflicting regulation, turf battles between FERC and EPA, and difficulty at FERC rising to the challenge of complex environmental challenges.

ii. FERC's Position and Federal Regulatory Trends

FERC's position is increasingly out of step with federal regulatory trends toward considering the environmental costs and benefits of regulatory actions. First and foremost, FERC's position is in tension with NEPA, which states that "to the fullest extent possible . . . the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this chapter,"²⁵⁹ namely, "to use all practicable means and measures . . . in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans."²⁶⁰ FERC has complied with many of NEPA's requirements and has admitted that CEQ regulations are binding on it—but only, FERC says, insofar as the regulations do not conflict with the Commission's statutory obligations.²⁶¹ Ultimately, the extent to which NEPA binds FERC is unsettled.²⁶² Regardless, as discussed above,²⁶³ in complying with NEPA, FERC has categorically excluded its rate regulation from the need to perform environmental assessments or impact statements under NEPA, on the grounds that the Commission lacks authority to consider the environmental consequences of its rate regulation. We have already exposed the weaknesses of this justification. Although, as a practical matter, it may make sense for FERC not to engage in an environmental impact statement every time it reviews an individual rate filing, as doing so could hinder the agency's ability to perform its functions, FERC has invoked this categorical exclusion to justify its decisions not to perform environmental impact statements or assessments for rulemakings that fundamentally restructure aspects of the industry²⁶⁴—quite a different matter.

On a related note, CEQ has issued guidance instructing agencies to review their categorical exclusions periodically, as part of the agencies' obligation under CEQ regulations to "continue to review their policies and procedures and in consultation with [CEQ] to revise them as necessary to ensure full compliance with the purposes and provisions of [NEPA]."²⁶⁵ The guidance explains why such review is important:

²⁵⁹ 42 U.S.C. § 4332 (2006).

²⁶⁰ 42 U.S.C. § 4331 (2006).

²⁶¹ See Regulations Implementing National Environmental Policy Act of 1969, 52 FR 47897-01.

²⁶² While the Ninth Circuit has implied that CEQ's regulations bind all federal agencies, including independent agencies, see *The Steamboaters v. FERC*, 759 F.2d 1382, 1393 n.4 (9th Cir. 1985), the Supreme Court has not decided the issue, see *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 99 n.12 (1983) ("[W]e do not decide whether [CEQ's NEPA regulations] have binding effect on an independent agency."); see generally Pinney, *supra* note 15, at 390.

²⁶³ See *supra* Part III.B.

²⁶⁴ See, e.g., Order No. 1000, *supra* note 94, at 49,963; Small Generator Interconnection Agreements & Procedures, 145 FERC ¶ 61,159, 2013 WL 6360657, at *65 (Nov. 22, 2013).

²⁶⁵ Final Guidance for Federal Departments and Agencies on Establishing, Applying, and Revising Categorical Exclusions Under the National Environmental Policy Act, 75 Fed. Reg. 75,628, 75,636 (Dec. 6, 2010) (quotations omitted).

CEQ believes it is extremely important to review the categorical exclusions already established by the Federal agencies. The fact that an agency's categorical exclusions were established years ago is all the more reason to review them to ensure that changes in technology, operations, agency missions, and the environment do not call into question the continued use of these categorical exclusions.²⁶⁶

With the need to address climate change more pressing than ever, with clean and renewable energy rapidly becoming a more important part of our electricity system, and with that system facing a critical juncture in terms of its future development, CEQ's exhortation seems especially applicable to FERC and its categorical exclusion for ratemaking. In general, NEPA and the trend of environmentally conscious regulation it has ushered in support the proposition that FERC should take a new course.

Other federal regulatory developments point in the same direction. Under Executive Order 12,866, federal executive agencies are required to assess the costs and benefits of proposed regulations and available regulatory alternatives, including inaction.²⁶⁷ The purpose of the Social Cost of Carbon technical support documents released by the federal interagency working group is to "allow agencies to incorporate the social benefits of reducing carbon dioxide . . . emissions into cost-benefit analyses of regulatory actions that have small, or 'marginal,' impacts on cumulative global emissions."²⁶⁸ Even before the release of that document, the Department of Transportation, Department of Energy, and EPA all incorporated GHG emission costs and benefits into cost-benefit analyses they performed pursuant to certain regulatory actions they undertook.²⁶⁹ Although Executive Order 12,866 is not binding on independent agencies such as FERC,²⁷⁰ it should have some persuasive significance for the Commission. The trend of regulatory consideration of environmental factors is reinforced by draft guidance issued by CEQ in 2010, proposing to advise agencies to "consider opportunities to reduce GHG emissions caused by proposed Federal actions and adapt their actions to climate change impacts throughout the NEPA process and to address these issues in their agency NEPA procedures."²⁷¹

The trend may even be spreading to judicial review of FERC rate regulation. In recently upholding a series of FERC orders regarding rate design for proposed multi-state transmission projects in the Midcontinent Independent System Operator ("MISO") region that would facilitate the development of wind power, the Seventh Circuit stated that the project's promotion of wind power "deserves emphasis."²⁷² The court noted how wind power can reduce

²⁶⁶ *Id.* at 75,630.

²⁶⁷ Executive Order 12,866, *supra* note 13, at § 1(a), (b)(6).

²⁶⁸ 2010 SOCIAL COST OF CARBON, *supra* note 24, at 1.

²⁶⁹ *Id.* at 2–3.

²⁷⁰ Executive Order 12,866, *supra* note 13, at § 3(b).

²⁷¹ Memorandum from Nancy H. Sutley, Chair, Council on Env'tl. Quality, to Heads of Fed. Dep'ts & Agencies, at 1 (Feb. 18, 2010), available at <http://perma.cc/5DYF-KX27>.

²⁷² *Ill. Commerce Comm'n v. FERC*, 721 F.3d 764, 774 (7th Cir. 2013), *cert. denied*, 134 S. Ct. 1277 (2014) and *cert. denied*, 134 S. Ct. 1278 (2014).

“both the nation’s dependence on foreign oil and emissions of carbon dioxide,” and emphasized the “substantial benefits” the region would likely reap as western wind power replaced “more expensive local wind power, and power plants that burn oil or coal.”²⁷³ FERC, in contrast, appears not to have invoked environmental benefits whatsoever in the orders.²⁷⁴

iii. *FERC’s Expertise*

One of the arguments FERC has made justifying its exclusion of environmental considerations is that it lacks relevant expertise. For example, in rejecting invitations to mitigate potential increased NO_x emissions resulting from Order No. 888, FERC said it lacked the expertise to address technical aspects of the problem, such as determining a proper baseline for emissions and establishing whether emissions from a given plant contribute to damage in remote locations, concluding that EPA was better qualified to perform such tasks.²⁷⁵ FERC had a point. EPA had and continues to have considerably more experience with and resources for such tasks, and with air pollution matters in general. FERC’s concern is an important one that deserves serious consideration.

There are several counterarguments to FERC’s concern, particularly as it relates to our specific proposal for FERC to address carbon emissions. First, FERC actually possesses unparalleled regulatory expertise in certain matters that are critical to important environmental aspects of the electricity industry. Two examples come readily to mind: wholesale electricity markets and transmission networks and planning. FERC was largely responsible for ushering in and designing wholesale electricity markets in the 1980s and 1990s. It exercises active oversight over them²⁷⁶ and continues to tinker with their design.²⁷⁷ These markets and their operators (largely the RTOs and ISOs, regulated by FERC) could play important roles in administering clean energy incentive schemes such as renewable portfolio standards involving renewable energy credits, or cap-and-trade allowances, because of their central role in coordinating and tracking electricity sales and flow.²⁷⁸

As for transmission, FERC has long had a significant role in its regulation and is assertively seeking to establish itself as the overseer of regional and

²⁷³ *Id.* at 775.

²⁷⁴ See *Midwest Indep. Transmission Sys. Operator, Inc.*, 133 FERC ¶ 61,221 (Dec. 16, 2010); *Midwest Indep. Transmission Sys. Operator, Inc.*, 137 FERC ¶ 61,074 (Oct. 21, 2011).

²⁷⁵ See *supra* Part III.B.

²⁷⁶ Complaints that FERC’s lax oversight of electricity markets was a contributing factor to the California energy crisis led the Commission to tighten its oversight. See McGREW, *supra* note 72, at 159.

²⁷⁷ See, e.g., Order No. 745, *supra* note 99; Order No. 741, *Credit Reforms in Organized Wholesale Electric Markets*, 133 FERC ¶ 61,060 (2010).

²⁷⁸ Cf. Joseph T. Kelliher & Maria Farinella, *The Changing Landscape of Federal Energy Law*, 61 ADMIN. L. REV. 611, 624 (2009) (noting that the proposed American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 341 (2009)—the cap-and-trade bill known as the Waxman-Markey Bill—would have assigned the task of regulating carbon markets and trading to FERC).

interregional transmission planning processes and cost-allocation methods.²⁷⁹ If Order No. 1000 is substantially upheld, FERC will be positioned to play an unprecedentedly central and centralizing role in coordinating and guiding the development of the nation's electricity grid. Effective development of the grid will be an essential part of the path to clean energy and smarter energy use, for a number of reasons. First, clean energy plants such as wind and solar will likely require construction of large new transmission facilities, because these energy sources are often most plentiful in locations far from load centers (areas, such as cities, where electricity is consumed in large amounts).²⁸⁰ Second, the grid is due for hundreds of billions of dollars of investment over the next several decades, creating opportunities for progress.²⁸¹ Third, transmission can influence the generation mix in various and nuanced ways. Take, for example, the following statement from Midwest ISO's 2009 transmission expansion plan:

Increased transmission capacity allows for greater access to less expensive generation. In many cases the generation with the lowest production cost has a higher CO₂ emission rate. In MTEP 08, the addition of the Appendix A/B projects relieved system constraints and allowed the system to dispatch lower cost steam turbine coal units in place of combined cycle and combustion turbines, thus increasing annual CO₂ emissions. While this increase represented a very small portion (0.23%) of the total CO₂ emissions, it demonstrates that transmission expansions can have the effect of increasing carbon production.²⁸²

Fourth, smart grid technology has the potential to be a crucial part of the transition toward clean energy and energy conservation and efficiency.²⁸³ Finally, transmission planning and cost allocation have become contentious issues, with utilities disagreeing with one another, and states disagreeing with one another, about who should pay for what and what should be built.²⁸⁴

²⁷⁹ See generally Order No. 890, *supra* note 93; Order No. 1000, *supra* note 94.

²⁸⁰ See, e.g., Matthew L. Wald, *Wind Energy Bumps into Power Grid's Limits*, N.Y. TIMES, Aug. 27, 2008, <http://perma.cc/CD5C-BUWJ>.

²⁸¹ One industry study estimated that \$298 billion of investment in transmission facilities would be needed between 2010 and 2030. THE EDISON FOUND., TRANSFORMING AMERICA'S POWER INDUSTRY 37 (2008). Other estimates have put the figure considerably higher. See *Hearing on Evaluating the Role of FERC in a Changing Energy Landscape Before the Subcomm. on Energy & Power of the H. Comm. on Energy & Commerce*, 113th Cong. 5 (2013) (statement of John R. Norris, Comm'r, Fed. Energy Reg. Comm'n), available at <http://perma.cc/CE2Q-YSYS>.

²⁸² MIDWEST ISO, MTEP 2009: MIDWEST ISO TRANSMISSION EXPANSION PLAN 37 (2009), available at <http://perma.cc/B5A6-TJS8>.

²⁸³ See *Smart Grid*, OFFICE OF ELEC. DELIVERY & ENERGY RELIABILITY, U.S. DEP'T OF ENERGY, <http://perma.cc/7V4M-CCFS>. Congress has directed FERC to "adopt such standards and protocols as may be necessary to insure smart-grid functionality and interoperability." Energy Independence and Security Act of 2007, Public Law No. 110-140, 121 Stat. 1492, § 1305(d) (to be codified at 42 U.S.C. § 17385(d)).

²⁸⁴ See Order No. 1000, *supra* note 94, at 49,850 (citing a characterization by the Brattle Group); see also *Ill. Commerce Comm'n v. FERC*, 576 F.3d 470 (7th Cir. 2009) (litigation over these issues).

Thus, although FERC may lack expertise in some environmental issues, it has expertise in matters that are crucially related to important environmental aspects of the industry. Currently, FERC displays ambivalence in the way it regulates such matters and applies this expertise. It has taken a number of actions that have the effect of facilitating clean energy and conservation. Yet it consistently avoids performing environmental analyses or impact statements for its regulations, and has admitted that some of the goals it has pursued are in tension with environmental goals.²⁸⁵ Rather than continue to engage in this awkward and likely inefficient dance of ambivalence and environmental regulation *sub silentio*, it may make more sense for FERC to acknowledge and embrace the role it has to play in shaping environmental policy relating to the industry.

Even if FERC currently lacks relevant expertise to handle some of the functions that would be entailed by considering environmental factors in its rate regulation, it would be theoretically possible to develop more expertise at FERC in these areas. Doing so might require FERC to shift staff and resources or obtain more resources.²⁸⁶ The costs and benefits of shifting FERC's focus or investing this way in FERC would have to be weighed against the costs and benefits of alternative courses of action. To the extent that FERC's unique expertise in matters such as electricity markets and transmission is being underutilized from an environmental perspective, the investment may well be worth it. Alternatively, FERC could enlist the environmental expertise of other agencies, such as EPA, to complement its own core expertise.²⁸⁷

iv. Considerations Specific to Climate Change

As detailed in Part I, *supra*, existing regulation of the U.S. electricity industry does not adequately address GHG emissions from electricity consumption, and the cost of these emissions is estimated to be enormous. Cost internalization is a good way to do this; so are other measures paving the way for a grid that will facilitate clean energy.

Regulating carbon emissions, moreover, does not present the same technical and administrative difficulties that are involved in regulating traditional, criteria pollutants. In Order No. 888, one of FERC's arguments against proposals for it to adopt measures to mitigate any increased NO_x emissions from its regulation was the difficulty of designing and administering such a scheme.²⁸⁸ Specifically, FERC said it lacked the expertise to determine a proper emissions baseline and to establish whether emissions from a given plant contribute to

²⁸⁵ See Order No. 888, *supra* note 82, at 21,673.

²⁸⁶ FERC is funded through fees charged to the industries it regulates. *About FERC*, FERC, <http://perma.cc/QV8E-ETVC>.

²⁸⁷ See Freeman & Rossi, *supra* note 223, at 1157 (noting that “[a]s a general matter, absent a statutory prohibition on agencies’ consulting each other, there appears to be no legal bar to such interactions”); see generally Jason Marisam, *Interagency Administration*, 45 ARIZ. ST. L.J. 183, 190–91 (discussing practice of agencies seeking expertise of other agencies).

²⁸⁸ Order No. 888, *supra* note 82, at 21,672–73.

damage in remote locations.²⁸⁹ In contrast to NO_x and other traditional pollutants, greenhouse gas emissions are dispersed globally in the atmosphere. While it is true that different geographic areas are suffering and will continue to suffer different types and levels of harms from global warming, the risks and costs are uniform enough that regulators here and abroad have found it adequate to adopt unitary prices for the global social costs of carbon emissions (though these prices increase as atmospheric carbon levels increase). This defining characteristic of these emissions makes it much easier for FERC to design and administer schemes to address these emissions. Drawing on existing climate change science and regulatory approaches to the problem, FERC could likely competently manage such a task.

v. *A History of Radical Reforms, with Court Approval*

Finally, it is relevant that courts have approved radical changes in policy and FPA interpretation by FERC in the past, demonstrating the particularly broad deference granted to FERC. In *California ex rel. Lockyer v. FERC*,²⁹⁰ the Ninth Circuit upheld FERC's decision to allow wholesale sales of electricity at market-based rates. The court noted that "the Supreme Court has emphasized 'that the just and reasonable standard does not compel the Commission to use any single pricing formula'" and that "the 'just and reasonable' requirement accords FERC 'broad rate-making authority.'" ²⁹¹

In *New York v. FERC*,²⁹² the Supreme Court upheld Order No. 888's imposition of an open access requirement on unbundled retail transmissions in interstate commerce.²⁹³ The Court reached its holding based on FERC's authority under section 201(b) of the FPA to regulate "the transmission of electric energy in interstate commerce," which is not limited to wholesale transactions, unlike its jurisdiction to regulate "the sale of electric energy at wholesale in interstate commerce."²⁹⁴ The Court accepted FERC's reasoning that an unbundled retail transaction could be broken down into two products—transmission service and the sale of the power itself—and that FERC could regulate the transmission element. The state of New York had argued that FERC was intruding on an area of state regulation protected by the prefatory language of section 201(a), which limits FERC's authority "to those matters which are not subject to regulation by the States."²⁹⁵ But the Court said its FPA jurisprudence made clear that "the FPA authorized regulation of wholesale sales that had been previously subject to state regulation,"²⁹⁶ and that section 201(a)'s language reserving powers to

²⁸⁹ *Id.* at 21,672.

²⁹⁰ 383 F.3d 1006 (9th Cir. 2004).

²⁹¹ *Id.* at 1012 (citing *Mobil Oil Exploration & Producing Se. Inc. v. United Distrib. Co.*, 498 U.S. 211, 244 (1991)).

²⁹² 535 U.S. 1 (2002).

²⁹³ *Id.* at 16–24.

²⁹⁴ *Id.* at 18–19.

²⁹⁵ *Id.* at 20–21.

²⁹⁶ *Id.* at 21 (citing *Public Util. Comm'n of R.I. v. Attleboro Steam & Elec. Co.*, 273 U.S. 83, 85–86 (1927)).

the states is a “mere policy declaration that cannot nullify a clear and specific grant of jurisdiction. . . .”²⁹⁷ The Court also reasoned that unbundled transmissions were a new development and thus were not regulated by the states when the FPA was passed, making this provision of section 201(a) irrelevant.²⁹⁸ This last conclusion is significant, because the Court effectively approved an expansion of FERC’s exercised jurisdiction into retail transmissions, an area traditionally regulated by the states. In doing so, the Court noted the major changes that had occurred in the electricity industry, including unbundling, since the FPA’s enactment.²⁹⁹

Jody Freeman and David Spence cite FERC’s market-based rate and open-access reforms in concluding that “FERC led the way toward more competitive markets by using the regulatory levers it had, arguably going beyond what Congress had anticipated.”³⁰⁰ For FERC to begin incorporating environmental considerations into its rate regulation would arguably just be a new chapter in this history of innovation.

C. *NEPA Kicks In*

Once FERC acknowledged its *authority* to incorporate environmental considerations into its rate regulation, NEPA would then trigger a *duty* to consider the environmental consequences of some of these actions. NEPA requires that federal agencies proposing major federal actions significantly affecting the quality of the human environment perform an EIS and identify alternatives to the proposed actions, among other things.³⁰¹ As described *supra*,³⁰² FERC has categorically excluded its rate regulation actions from the need for EISs or EAs, arguing that these actions are not major federal actions within the meaning of NEPA because they are not actions with environmental effects that are “actually or potentially subject to federal control or responsibility.” FERC’s reasoning is that the FPA precludes it from having control or responsibility over these environmental effects. Interpreting the FPA to give FERC authority to incorporate environmental considerations into its rate regulation would nullify this argument by giving FERC control and responsibility over these effects. FERC would have to withdraw or substantially revise its categorical exclusion to reflect the fact that rate regulation actions that would have a significant impact on the environment would require EISs. FERC would be subject to at least a minimum procedural obligation to consider environmental costs and benefits in these. Yet FERC could still go beyond this: Its authority to incorporate environmental considerations into the determination of just and reasonable rates would give it broad substantive power to adjust rates, regulations, practices, and the like in order to address environmental problems.

²⁹⁷ *Id.* at 22 (internal quotations omitted).

²⁹⁸ *Id.* at 21.

²⁹⁹ *Id.* at 23.

³⁰⁰ Freeman & Spence, *supra* note 21.

³⁰¹ 42 U.S.C. § 4332(2)(C) (2006 & Supp. V 2012).

³⁰² See *supra* Part III.B.

V. IMPLEMENTATION ILLUSTRATIONS

This Part presents several illustrations of the types of policy reforms FERC could undertake or have undertaken under an environmentally inclusive approach to rate regulation. The first illustration takes a prior reform promulgated by FERC, Order No. 745, and imagines how it could have been improved through the process of an EA and/or EIS and through substantive incorporation of environmental costs and benefits. The second and third illustrations imagine wide-reaching reforms that might be possible in the future. For each illustration, we explore what the reform might achieve as well as what problems or challenges it might entail. In doing so, we hope to give a general sense of the types of reforms that might be possible and what types of goals would be attainable under an environmentally inclusive approach, while also highlighting the challenges and limitations that would be presented by factors such as FERC's limited jurisdiction under the FPA and the realities of the Commission's institutional competence. In keeping with the focus of this Article, the reform proposals focus mostly on reducing carbon emissions, but it is possible to imagine the reforms extending to incorporate other pollutants and environmental problems, and at times we explicitly discuss this possibility.

A. *Environmental Impacts of Order No. 745*

In Order No. 745, FERC invoked its section 206 authority to direct that providers of demand response in real-time and day-ahead wholesale energy markets be compensated at the full market price for energy (called "LMP," for "locational marginal price") when certain conditions are met that ensure that the use of demand response will be cost-effective.³⁰³ Commenters on the proposed order were divided as to whether demand response providers should be paid this full market price or, alternatively, the full market price minus the generation (denoted as "G") component of the retail rate.³⁰⁴ Supporters of full LMP argued, among other things, that functional equivalence between demand response and generation, as well as imperfections in energy markets, made full LMP appropriate.³⁰⁵ The primary rationale behind the LMP-G approach was that payment of full LMP would overcompensate demand response providers by failing to take into account the retail rate savings that the demand response provider reaps from foregoing energy consumption.³⁰⁶ Taking a full social cost view, some commenters argued that even full LMP would undercompensate the demand response provider, given the environmental benefits of reduced energy consumption.³⁰⁷

³⁰³ Order No. 745, *supra* note 99, at 16,658.

³⁰⁴ *Id.* at 16,662–64.

³⁰⁵ *Id.*

³⁰⁶ *Id.* at 16,662–63.

³⁰⁷ *Id.* at 16,664.

In May 2014, the D.C. Circuit vacated Order No. 745 in a 2-1 ruling, finding it an impermissible regulation of retail rates.³⁰⁸ The majority further stated that it would also have struck down the order as arbitrary and capricious, faulting FERC for inadequately responding to arguments that the order would overcompensate demand response.³⁰⁹ In reaching its decision, the majority took a restrictive view of FERC's authority under the FPA and chose to emphasize the retail-market aspects of demand response, despite the effects the majority conceded demand response has on wholesale rates.³¹⁰ Although the court's ruling rendered Order No. 745 inoperative, it is still instructive to consider how the order could have been improved through environmentally inclusive decision-making.

In deciding to adopt the full LMP approach, FERC did not remark on the environmental aspects of the problem, other than to mention the comments regarding the potential environmental benefits. Moreover, pursuant to its categorical exclusion of ratemaking actions from NEPA, it declined to perform an EA or EIS for Order No. 745.³¹¹ The record, therefore, suggests that environmental considerations barely, if at all, informed the Commission's decisionmaking. Order No. 745 is a good example of a FERC action that would have benefited from consideration of environmental factors. This is largely because demand response is a phenomenon of considerable environmental consequence that nevertheless seems largely to fall through the gaps of environmental regulation.³¹²

Under a policy of environmentally inclusive rate regulation, in which significant reforms of the industry would not be categorically excluded from NEPA, FERC would have had to undertake an EA to determine if its proposed rule might have a significant impact on the environment. At the EA stage, and at the EIS stage if an EIS were undertaken, FERC would have been obligated to examine reasonable alternatives to its proposed rule—including alternatives beyond its jurisdiction—and the environmental consequences of these alternatives.³¹³ It could, for example, have assessed what impacts various alternatives (LMP, LMP-G, no action) would have had on aggregate demand response output across the country, and what impacts demand response had on the environment (here, FERC might well have considered the benefits not just of GHG emissions avoided but of all pollution avoided under various demand response scenarios involving different generation mixes). While these may have been

³⁰⁸ Elec. Pwr. Supply Ass'n v. FERC, No. 11-1486, slip op. at 14, 16 (D.C. Cir. May 23, 2014).

³⁰⁹ *Id.* at 14–16.

³¹⁰ *See id.* at 7–11. The dissent argued that a sufficient connection existed between the forms of demand response regulated by Order No. 745 and wholesale rates to support the order, and that FERC adequately explained its decision to use full LMP. *Id.* at 13–27 (Edwards, J., dissenting).

³¹¹ *Id.* at 16, 677.

³¹² Congress does not appear to have specifically delegated to any entity plenary environmental authority over demand response. Although the EPA is exercising regulatory oversight over behind-the-meter backup generators used by some demand response providers, this is different altogether from rewarding demand response for any environmental benefits it produces. *See* New Source Performance Standards for Stationary Internal Combustion Engines, 78 Fed. Reg. 6674 (2013) (to be codified at 40 C.F.R. pts. 60, 63).

³¹³ *See* 40 C.F.R. §§ 1502.14–16.

challenging investigations to undertake,³¹⁴ they could have produced extremely valuable information about demand response and its role in the nation's electricity system and have promoted sound policymaking by the Commission with a view to total social costs and benefits.

Through an EA or EIS, FERC could, for example, have explored in more depth and evaluated the types of environmental arguments made by the commenters on Order No. 745. These arguments include claims that demand response is environmentally valuable because it tends to replace the particularly dirty generation sources that are used to meet peak electricity demand, as well as counterarguments that paying demand response providers full LMP will encourage them to provide demand response services while actually running dirtier, off-grid power simultaneously.³¹⁵ In a world without an environmental-energy regulatory divide, answering questions like these would be critical to forming sound policy on the issue of demand response. An EA or EIS would have allowed FERC to collect and analyze data to try to confirm or disconfirm such claims, and would have allowed the Commission to consider regulatory alternatives to mitigate environmental harms. For example, if FERC had determined that paying full LMP would indeed be likely to cause some demand response providers to operate off-grid power that is dirtier than the generation replaced by the demand response, FERC could have considered including in Order No. 745 a requirement that demand response providers certify, under threat of penalty, that they will not engage in such practices.³¹⁶ In short, performing an EA or EIS would have allowed FERC to make an environmentally informed decision that would maximize total welfare, rather than ignoring the environmental aspects of the problem.³¹⁷

We can also imagine what the details of the substantive rules laid out in Order No. 745 might look like if they had incorporated environmental costs and benefits. In the process, we can gain some insight into how incorporation of environmental costs and benefits into FERC regulation would fit into rate regulation doctrine developed by FERC and the courts under the FPA.

Let us imagine that FERC performed an EIS and arrived at a rough monetary estimate of the benefits that demand response, on average, provided in terms of avoided environmental externalities.³¹⁸ Let us assume further that, fac-

³¹⁴ To assist with the investigation, FERC could solicit data and analysis by interested parties, including major demand response service providers, environmental groups, and electric utilities.

³¹⁵ Order No. 745, *supra* note 99, at 16,664.

³¹⁶ Such a requirement could be justified under an environmentally inclusive reading of the FPA because it would help ensure that wholesale electricity rates are not unjust or unreasonable by virtue of producing excessive environmental externalities.

³¹⁷ Citing any environmental benefits likely to redound from the order could also have helped FERC to justify legally its decision to require full LMP compensation for demand response providers, as this compensation could have been viewed as partly for these benefits. More generally, to the extent FERC continues to undertake industry reforms likely to produce environmental benefits, explicit recognition of these benefits by FERC could help shore up these reform efforts against legal challenges that the reforms are arbitrary and capricious.

³¹⁸ It is possible to imagine FERC taking a more case-specific approach to valuing the environmental benefits of demand response and requiring that demand response providers be compensated at a level that would account for the avoided environmental externalities of the particular

toring this value into the equation, FERC arrived at some formula (say, LMP plus some constant k) as the appropriate compensation level(s) for demand response. FERC would still need to address the issue of cost allocation—who should pay demand response providers for their services, and in what proportion—including as it relates to the environmental costs and benefits at issue.³¹⁹ FERC cost allocation issues are governed by certain judicially endorsed principles, particularly those of “cost causation” (the principle that customers should pay for the costs they cause to be incurred) and “beneficiary pays” (the principle that, to justify socialized cost allocation to ratepayers for facilities, FERC must outline the system-wide benefits the new facility provides with “reasonable particularity”).³²⁰ In Order No. 745, FERC adopted a rule that costs be allocated “proportionally to all entities that purchase from the relevant energy market in the area(s) where the demand response resource reduces the market price for energy at the time when the demand response resource is committed or dispatched,” finding that this would “reasonably allocate the costs of demand response to those who benefit from the lower prices produced by dispatching demand response.”³²¹

Incorporating environmental costs and benefits into ratemaking would introduce new dynamics into the application of these cost-allocation principles, which did not evolve to address environmental considerations. The cost-causation principle in particular is centered around private, not social, cost: It concerns what costs a customer of a utility (or utilities) has caused *the utility (or utilities), not society*, to incur. But it is possible to imagine adapting the principle quite seamlessly to encompass social costs: The revised version would dictate that customers pay for the full social costs they cause to be incurred. The beneficiary-pays principle, insofar as it applies,³²² is trickier to adapt. That is because environmental harms are often significantly removed in time and space from their cause, and in a widely, unevenly dispersed manner. Benefits of reduced carbon emissions from a power plant in Iowa, for example, are realized around the world, such as by residents of the Maldive Islands. Clearly, FERC lacks jurisdiction to require people in the Maldive Islands to pay for such benefits, and even in cases where FERC possesses sufficient jurisdiction, determining who exactly reaps environmental benefits and in what amount, and then distributing those costs appropriately, could be a highly complex undertaking, with the complexity varying according to the pollutant or environmental prob-

generation output that the demand response replaced. This would require the operator of the wholesale market to determine which generation source was being replaced and what type of pollution profile it had—a process that operators of wholesale electricity markets could carry out through databases and algorithms.

³¹⁹ See Order No. 745, *supra* note 99, at 16,673–74.

³²⁰ Gabe Maser, *It's Electric, but FERC's Cost-Causation Boogie-Woogie Fails to Justify Socialized Costs for Renewable Transmission*, 100 GEO. L.J. 1829, 1834–35 (2012); see also Ill. Commerce Comm'n v. FERC, 576 F.3d 470, 476 (7th Cir. 2009).

³²¹ Order No. 745, *supra* note 99, at 16,674.

³²² Some confusion appears to exist concerning the exact meaning of and relationship between the cost-causation and beneficiary-pays principles, such as around the issue of when FERC can rely on the beneficiary-pays principle. See Midwest Indep. Transmission Sys. Operator, Inc., 137 FERC ¶ 61,074, 2011 WL 5116434, at *11 (Oct. 21, 2011) (comments of Illinois Commission).

lem at issue. However, costs imposed under the beneficiary-pays principle need only be “at least roughly commensurate” with anticipated benefits.³²³

Applying these principles to the demand response context, the question is whether FERC could find a legally acceptable way to allocate the portion of a demand response payment that is attributable to avoided environmental costs, and what this way would look like. Attempting to adhere strictly to the cost-causation or beneficiary-pays principles would result in different results depending on which principle was invoked. Under the cost-causation principle, the portion of the payment might be allocated according to the same system that FERC adopted in Order No. 745: “proportionally to all entities that purchase from the relevant energy market in the area(s) where the demand response resource reduces the market price for energy at the time when the demand response resource is committed or dispatched.”³²⁴ Under the beneficiary-pays principle, the portion of the payment should ideally be distributed among those who benefit from the avoided environmental costs, but this represents an ideal that is all but impossible to achieve.

FERC might thus want to stick with the cost allocation method under the cost-causation principle and argue that the costs imposed would be roughly commensurate with the environmental benefits received. FERC might be aided here by the fact that the Seventh Circuit recently upheld a set of cost allocation determinations by FERC with respect to proposed multi-state transmission projects in the MISO region despite the fact that it was “impossible to allocate [certain identified] cost savings . . . with any precision across MISO members.”³²⁵ Moreover, pointing to how wind power can reduce “both the nation’s dependence on foreign oil and emissions of carbon dioxide,” the court noted approvingly how the projects would promote wind power.³²⁶ Writing for the court, Judge Richard Posner cited the “substantial benefits” the region would likely reap as western wind power replaced “more expensive local wind power, and power plants that burn oil or coal”³²⁷ The court stated that there was “no reason to think these benefits will be denied to particular subregions of MISO.”³²⁸ In other words, the court approvingly cited the environmental benefits likely to result from the project despite the difficulty of allocating these benefits.

³²³ *Ill. Commerce Comm’n*, 576 F.3d at 477 (holding that FERC need not calculate anticipated reliability benefits of a transmission project to the “last . . . ten million or perhaps hundred million dollars”).

³²⁴ Order No. 745, *supra* note 99, at 16,674.

³²⁵ *Illinois Commerce Comm’n v. Fed. Energy Regulatory Comm’n*, 721 F.3d 764, 774 (7th Cir. 2013), *cert. denied*, 134 S. Ct. 1277 (2014) and *cert. denied*, 134 S. Ct. 1278 (2014).

³²⁶ *Id.* at 774–75.

³²⁷ *Id.* at 775.

³²⁸ *Id.*

B. *Transmission Planning*

A reform that FERC could implement in the future would be to require or encourage consideration of carbon emissions in regional and interregional transmission planning.

i. *How It Would Work*

In undertaking this reform, FERC could assert a special need to take action to reduce carbon emissions from electricity generation, in light of the failure of existing regulation to address the problem. FERC would acknowledge the importance of transmission planning to this goal,³²⁹ and the shortcomings of existing planning in making adequate progress toward this goal. Implicit in this point is the fact that FERC has primary authority over and unparalleled expertise with transmission planning, making it appropriate for FERC to take action.

Then would come the concrete substance of the regulation: FERC could adopt the federal interagency group's mean estimate of the social cost of carbon³³⁰ and state that all regional and interregional transmission planning should from now on reflect, such as in its cost-benefit calculations, this cost.

FERC would be faced with some choices in implementing this regulation in detail. FERC could choose between making the requirement of considering carbon emission costs and benefits a merely procedural one or a substantive one. A procedural requirement would simply provide that the parties involved in transmission planning would identify and assess the emission costs and benefits. A substantive requirement would direct these parties to literally factor these emission costs and benefits into the cost-benefit calculations that determine which transmission projects get built. Clearly, a substantive requirement of this type has much more force, and it would almost certainly lead to vigorous challenges arguing that this is beyond FERC's authority. Alternatively, FERC could take a voluntary approach and simply encourage, rather than require, that transmission planning incorporate the social cost of carbon emissions. FERC has issued optional regulations in the past, including Order No. 2000, which encouraged but did not require the formation of RTOs.³³¹ Another

³²⁹ It is quite possible that even if comprehensive federal cap-and-trade or carbon tax legislation were passed, the complexities of transmission planning, with its collective action problems and monopolistic aspects, would still stand in the way of optimal GHG reductions and clean energy deployment. Cf. Kelliher & Farinella, *supra* note 278, at 623 (arguing that achieving maximum wind power potential is unlikely under the current state siting regime, and that exclusive and preemptive federal siting of transmission facilities would be necessary). Kelliher was Chairman of FERC from 2005 to 2009. *Id.* at 611.

³³⁰ We focus on the social cost of carbon throughout this Part because the federal government has produced an estimate for the cost of carbon, but not other types of GHG emissions yet. But FERC could, at an appropriate time, expand its programs to encompass the social costs of other GHG emissions.

³³¹ Order No. 2000, *supra* note 90, at 4.

alternative—a middle ground between voluntary and mandatory regulation—would be for FERC to provide incentives to utilities to comply.³³²

Also, FERC would need to decide whether jurisdictional entities should use the domestic or global cost of carbon in their calculations. The argument for global cost is that it reflects the full cost to society, and that it is appropriate for FERC-jurisdictional entities to account for the full social costs of their actions.³³³ The argument for domestic cost is that it reflects the cost to the United States, that FERC has jurisdiction only within the United States, and that counting benefits (i.e., of avoided carbon emissions) to people outside the United States while imposing all the costs (i.e., of higher electricity prices) associated with those benefits on U.S. individuals and entities violates the beneficiary-pays principle. If FERC wanted to require transmission planning to reflect and incorporate the global cost of carbon, the agency might need to argue that the principle simply should not apply to its efforts to internalize these costs, but a court reviewing the decision might disagree. Alternatively, FERC could adopt the domestic cost approach and argue that, in an aggregate sense, applied to transmission planning across the country, this approach would lead to a roughly commensurate distribution of costs and benefits incurred by customers, with the vast majority of U.S. customers paying to avoid carbon emissions that would harm the whole country, themselves included. Customers in each region would pay to avoid emission costs imposed on the entire country, but customers in other regions would reciprocate, balancing out the distribution of costs and benefits. Another choice FERC would have to make is whether to require the transmission planning processes to use lifecycle carbon emission analysis, or to require consideration of emissions produced by the generation process only. Lifecycle analysis provides a comprehensive accounting of all the emissions associated with an energy source, from harvesting of the fuel source to management of waste generated by the production process.³³⁴ This approach would be more challenging and expensive for FERC to administer and for regulated entities to comply with, but would provide a more accurate evaluation of total emissions costs and benefits associated with proposed transmission projects. Whether FERC used lifecycle analysis or not, it might want to assign generic social cost intensity figures for various types of generation—coal, wind, etc.—corresponding to their carbon intensity and require use of these

³³² FERC took a partly incentive-based approach in Order No. 888 by adopting a policy that non-public utility transmission providers, over which FERC lacked jurisdiction, would be granted open access service only if they agreed to provide open access to their own transmission facilities. Order No. 888, *supra* note 82, at 21,572–73. FERC also used incentives to encourage utilities to join RTOs, such as by conditioning merger approval on joining. Joel B. Eisen, *Regulatory Linearity, Commerce Clause Brinkmanship, and Retrenchment in Electric Utility Deregulation*, 40 WAKE FOREST L. REV. 545, 573–82 (2005).

³³³ Cf. 2010 SOCIAL COST OF CARBON, *supra* note 24, at 10–11 (weighing advantages versus disadvantages of using the domestic versus global figures, and concluding that “a global measure” of benefits from avoided emissions was “preferable,” despite OMB guidance requiring analysis of economically significant regulations from a domestic perspective and merely allowing analysis from international perspective).

³³⁴ See *supra* note 35 for an explanation of lifecycle analysis.

figures in the cost-benefit calculations unless an entity could show that the anticipated emissions associated with a particular project would differ significantly from the standard value for that type of project.³³⁵

ii. Challenges

Is FERC qualified to undertake the task of reviewing carbon emission costs and benefits of various transmission plans? Are utilities and RTOs and ISOs qualified to implement such a program? Given FERC's expertise in transmission matters, the answer to the first question is probably yes. And Midwest ISO's thorough incorporation of costs and benefits related to anticipated GHG emission regulation costs into its planning³³⁶ suggests that RTOs and ISOs—and the utilities that form them—are capable of implementing the program.

Another concern regarding the proposal is that it would increase the difficulty and expense of transmission planning. Although performing the type of analysis that Midwest ISO performed would entail costs, the process would help ensure that transmission projects get selected and built in a way that would minimize the social cost of generation, potentially saving billions of dollars in climate damage to the United States alone. Moreover, mandating that transmission planning incorporate the costs and benefits of carbon emissions might actually eliminate some of the conflicts over transmission planning and cost allocation that are currently being caused by conflicting state public policy requirements, by establishing a floor level of credit to be given to transmission facilitating clean energy in cost-benefit calculations.

A limitation of this approach is that it would only indirectly influence emissions from future generation facilities, by incentivizing the development of transmission that would facilitate clean energy. But since intelligent transmission development is essential to the optimal development of clean energy, this would be no small achievement.

C. Social-Cost Wholesale Rates

i. How It Would Work

A more ambitious and radical approach would be for FERC to require—or encourage, perhaps through incentives—that the social cost of carbon be internalized into wholesale electricity rates. Again, through a rulemaking, FERC would first announce a new interpretation of the FPA and an accompanying general policy of incorporating environmental considerations into the determination of just and reasonable rates where appropriate. FERC could then issue

³³⁵ California's Low Carbon Fuel Standard takes this type of approach. *Id.*

³³⁶ See generally MIDWEST ISO, 2010 TRANSMISSION EXPANSION PLAN 140–59 (2010), available at <http://perma.cc/A9G5-7PBV> (quantifying financial values of transmission plans under various regulatory scenarios, assigning dollar values to reductions in carbon emissions).

new regulations to ensure that externalities from carbon emissions are internalized in both market- and cost-of-service-based wholesale electricity sales.

a. Market-Based Context

Wholesale electricity markets give FERC a rather elegant way to ensure that these externalities are internalized: a system of generation dispatch called social-cost dispatch.³³⁷ Under this system, the operators of an electricity market dispatch generation on the basis of its full social cost rather than its private cost. Thus, a wind farm might be dispatched over a coal plant to meet demand at some moment in time because of the former's lack of emissions, whereas if those emissions were not factored into the equation, the coal plant might be dispatched over the wind farm. FERC could mandate that wholesale market sales of electricity reflect and incorporate the cost of carbon, and allow wholesale market operators (such as RTOs and ISOs) to meet this requirement through social cost dispatch. The price at which sales would take place would still be the private price, but social cost would be used to determine³³⁸ which generation bids are selected.

The effect would resemble that of a carbon tax, internalizing the social cost of carbon into the price of electricity bought and sold through wholesale electricity markets. However, there would be no actual tax revenue to be collected since the sale price would remain private cost. Thus, there would be no need for FERC to collect any tax, avoiding a considerable administrative, legal, and political complication. To avoid overpenalizing emissions already being penalized under other regulations, such as a state cap-and-trade program, FERC could implement a mechanism whereby market operators, perhaps upon application by a generator or an electricity wholesaler, could prorate the FERC-pursuant internalization amount for particular generators or wholesalers so as to ensure that no more than the total social cost of carbon is internalized.

b. Cost-of-Service-Based Context

Many wholesale electricity sales do not take place through markets but still take place under cost-based FERC regulation. Electricity wholesalers file rates, terms, and conditions with FERC in accordance with the FPA,³³⁹ and FERC reviews these to ensure they meet the FPA's standards.³⁴⁰ FERC could require that the social cost of carbon associated with these sales be internalized into these rates. Yet such a system would likely require FERC to collect this "internalization surcharge" (again, similar to a carbon tax) as a tax so as not to result in the utilities' being paid for the surcharge, opening up a host of compli-

³³⁷ Social cost dispatch has been around in theory and in practice for several decades now. See, e.g., Stephen Bernow et al., *Full-Cost Dispatch: Incorporating Environmental Externalities in Electric System Operation*, 4(2) *THE ELECTRICITY J.* 20 (1991).

³³⁸ Social cost would become the relevant cost consideration involved in dispatch. Other considerations, such as system reliability, also factor into dispatch and would continue to do so.

³³⁹ See 16 U.S.C. § 824d(d) (2012).

³⁴⁰ 16 U.S.C. § 824d(e) (2012).

cations, such as whether FERC has authority to levy and collect such a tax³⁴¹ and whether it would be politically possible for it to do so.³⁴² This complication shows how FERC's limited statutory authority constrains the agency's ability to tackle environmental problems in a comprehensive way—a truth this Article readily admits.

ii. *Challenges*

Any FERC effort to internalize the social cost of carbon into wholesale electricity rates would be constrained in significant ways by FERC's limited jurisdiction. For example, the effort could create perverse incentives. First, FERC's lack of jurisdiction over retail sales of electricity might lead sophisticated customers currently purchasing from middlemen to buy directly from electricity generators, or generate their own electricity from dirtier generators, avoiding FERC's wholesale regulation and the internalized carbon cost. Second, FERC's lack of jurisdiction over state-owned utilities and rural electric cooperatives³⁴³ might incentivize energy-intensive businesses to move where these utilities (confusingly called “non-public utilities” in FERC parlance) operate, if internalizing the cost of carbon would lead their rates to be higher than the rates they could get from these non-public utilities. Jurisdiction-evading responses like these would undermine the effectiveness of FERC's effort to reduce carbon emissions, and could lead to considerable inefficiency.

Moreover, the program would pose a risk of conflict with other regulations that address carbon costs. Theoretically, as mentioned above, FERC could allow complying entities to show exactly what their carbon emission rates are, and to what extent carbon costs are already being internalized in the wholesale sales they conduct, and then to comply with FERC's program by ensuring that

³⁴¹ Under the current FPA, FERC would have to argue that the statute gives it implied authority to levy and collect such a tax to ensure just and reasonable rates. Courts would likely be highly skeptical toward this position, given its novelty. Applying *Chevron*, a court might hold that the FPA clearly does not give FERC authority to administer such a tax, or might conclude that the statute is ambiguous on this question, but that FERC's interpretation is unreasonable. Even if a court upheld FERC's claim of authority, the delegation of authority would still have to pass nondelegation scrutiny. A delegation of power by Congress must provide the agency with an “intelligible principle” to which the agency must conform. *Whitman v. Am. Trucking Assoc.*, 531 U.S. 457, 472 (2001). The delegation of discretionary authority under Congress' taxing power is subject to no constitutional scrutiny greater than that applied in other nondelegation contexts. *Skinner v. Mid-Am. Pipeline Co.*, 490 U.S. 212, 214 (1989). Modern nondelegation doctrine is rather toothless, but a court might still conclude that the FPA's “just and reasonable” language provides too little content to serve as an intelligible principle for the administration of a tax.

³⁴² Because FERC would at the very least need to ensure that these tax revenues were serving the end of just and reasonable rates, it could establish programs for the reinvestment of the tax revenues in beneficial energy programs, such as subsidies to help low-income customers afford the higher rates that would result, cost-effective energy efficiency initiatives, and smart grid research. Notably, many of the largest American corporations, “including Exxon Mobil, Walmart, and American Electric Power, are incorporating a price on carbon into their long-term financial plans.” Coral Davenport, *Large Companies Prepared to Pay Price on Carbon*, N.Y. TIMES, Dec. 5, 2013, at A1.

³⁴³ See 16 U.S.C. § 824(f) (2012).

total cost internalization for these sales equals FERC's adopted social cost of carbon figure. In practice, however, such a measure could be complicated and difficult to implement accurately. Moreover, FERC's program might force states to reevaluate their ongoing and planned policies to address the cost of carbon or incentivize clean energy. FERC's program would also stand somewhat awkwardly alongside EPA efforts such as the PSD and Title V programs as they applied to GHG emissions, but would not conflict per se with these efforts.

Other drawbacks include the reality that FERC's effort would be sure to meet major industry and political resistance, perhaps even sparking backlash in Congress and an effort to amend the FPA and curtail FERC's authority. The backlash would largely focus on one effect that FERC's effort would have: raising electricity bills, which could produce an economic slowdown and hurt low-income consumers in particular. Two measures FERC could take to minimize such effects would be to phase internalization in gradually (as tends to occur in cap-and-trade systems³⁴⁴) to avoid an economic shock, and establishing programs to help low-income consumers afford the higher rates. Yet the latter measure, like administration of a tax, may be outside FERC's authority.

Finally, there are the questions of whether FERC is qualified to undertake such a program, and whether complying entities that would have important responsibilities in implementing it, especially wholesale market operators, are qualified to do so. The sophistication of FERC and these entities in the economic and technical aspects of wholesale electricity transactions suggests that they would be able to implement this program, which relies on simple cost internalization, effectively. The considerable literature on and substantial experimentation that has occurred with environmental and social cost dispatch suggests that wholesale market operators in particular would be well equipped to implement the program. Further, FERC could seek EPA's expertise in developing the environmental aspects of the program, such as the carbon intensities of various types of generation. Thus, this does not seem as large of a concern as FERC's jurisdictional limitations.

D. Comprehensive Incorporation of Environmental Considerations

Finally, it is worth thinking about what it might look like if FERC took a comprehensive approach to incorporating environmental factors into its rate regulation—if “economic” and “environmental” regulation of the electricity were, as Lincoln Davies imagines,³⁴⁵ merged. FERC might cooperate with EPA and other agencies to undertake a comprehensive and holistic analysis of the electricity industry, identifying critical environmental challenges and opportunities for intervention.³⁴⁶ The agencies might establish an efficient division of

³⁴⁴ See *supra* Part I.B.ii.

³⁴⁵ See *supra* Part IV.B.i.

³⁴⁶ Cf. generally Freeman & Rossi, *supra* note 223 (discussing interagency decision-making and its benefits).

labor for tackling these challenges, with each agency focusing on its own area of expertise but also cooperating with other agencies to achieve the regulatory synergies that Davies discusses. Were EPA to take the lead in promulgating a comprehensive program to reduce GHG emissions, it could draw on FERC's expertise in electricity markets in designing the program, and perhaps involve FERC in aspects of the program's administration. FERC could undertake an analysis of how rate structures still prevalent in the industry generally encourage consumption of electricity rather than conservation and investment in energy efficiency, and could seek to complement state efforts to find rate designs that reduce environmental costs and maximize overall welfare.³⁴⁷ There would likely be many other opportunities for FERC to take an active role in promoting a sustainable and cleaner electricity system. We offer these suggestions merely to provide a glimpse of what might be possible.

CONCLUSION

The time has come to rethink FERC's policy of excluding environmental considerations from its wide-ranging regulation of the electricity industry under sections 205 and 206 of the FPA (what we have referred to as FERC's "rate regulation" for convenience's sake). FERC's rationales for its current policy are unconvincing. Its narrow view of its authority to consider environmental consequences is arguably too restrictive. Its policy is also increasingly at odds with its own embrace and pursuit, however tacit, of environmental goals. Finally and most fundamentally, it is difficult to justify FERC's neglect of environmental considerations as good policy today. Although it may once have seemed defensible to divide energy or economic regulation (i.e., by FERC) from environmental regulation (i.e., by EPA) of the electricity industry and pit them against each other to some degree, such an approach seems deeply wrong in an era in which we increasingly view sustainability and economic growth as interrelated and inseparable, and when we face an environmental threat of unprecedented proportions in climate change. In the absence of adequate congressional action to correct this problem, FERC would do well to explore the possibility that its "just and reasonable" mandate must evolve to encompass these defining issues of our time.

³⁴⁷ See *supra* notes 254 and 255 and accompanying text.

