

Rationing Environmental Law in a Time of Climate Change

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Addressing climate change demands a fundamental change in United States energy policy and a major infrastructure for a renewable energy future. Yet the boom in natural gas development and expanding demand for energy in developing nations argue poorly for reductions in fossil fuel use. This Article documents how the federal government has resorted to some measure of environmental exceptionalism by rationing environmental law to expedite renewable energy development in the context of the seismic shifts in U.S. energy policy. Despite the many arguments in opposition to rationing environmental law, this Article concludes that the realities of climate change and the lack of progress despite other minor administrative efforts support rationing as a measured response necessary to human survival.

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INTRODUCTION

The impacts of climate change are here.¹ The coastlines have been

1. Agreement among scientists regarding the human contribution to climate change is remarkably uniform. In 2010 the Proceedings of the National Academy of Sciences reported that ninety-eight percent of scientists studying the climate contend that global warming is occurring and that anthropogenic causes are to blame. See William R. L. Anderegg et al., *Expert Credibility in Climate Change*, 107 PROC. NAT’L ACAD. SCIENCES 12107, 12107 (2010). The American public is beginning to acknowledge the relationship between climate change and more extreme weather. See YALE PROJECT ON CLIMATE CHANGE COMMC’N & GEORGE MASON UNIV. CTR. FOR CLIMATE CHANGE COMMC’N, EXTREME WEATHER AND CLIMATE CHANGE IN THE AMERICAN MIND 7 (2013) (basing the findings on a survey, the majority of Americans polled say “global warming is affecting weather in the United States”). But see Jason Koebler, *After Cold Winter, American Attitudes Chill on Global Warming*, U.S. NEWS & WORLD REP. (May 9, 2013, 11:53 AM), <http://www.usnews.com/news/articles/2013/05/09/after-cold-winter-american-attitud>

battered by severe storms.² The United States has been faced with serious drought in many areas where warming trends exacerbate conditions.³ Heat and drought combined have contributed to massive wildfires that have devastated public and private lands.⁴ Reports from governmental and non-governmental organizations confirm that challenges threatening human and wildlife survival are mounting across the nation.⁵ The most recent Intergovernmental Panel on Climate Change (“IPCC”) assessment paints a stark picture of the future.⁶ Among the thirty sectors analyzed, including those concerned with human security and livelihood, negative impacts on crop yields to feed rising populations, risks from extreme weather events like heat waves and floods, and water scarcity emphasize serious threats to people living in urban or rural areas.⁷

Despite all of this, no sense of urgency has prevailed. To look soberly at the crisis is to acknowledge that progress has been slight in nearly all applicable United States forums—be it Congress, state

es-chill-on-global-warming-american-opinion-on-climate-change-seems-to-rise-and-fall-with-the-temperature (noting that individuals shift their belief in the existence of global warming based on the weather).

2. See, e.g., *Climate Change and Hurricane Sandy*, CTR. FOR CLIMATE & ENERGY SOLUTIONS 1–2 (Oct. 2012), <http://www.c2es.org/docUploads/hurricane-sandy-fact-sheet-oct-2012.pdf> (showing Hurricane Sandy as one effect of climate change as the result of enhanced precipitation, rising of the sea level, and the Atlantic “traffic jam”).

3. While no single weather event or drought conditions are explicitly linked to climate change, the overall increase in temperatures and climate change contributes to extreme weather events. See Justin Gillis, *Science Linking Drought to Global Warming Remains Matter of Dispute*, N.Y. TIMES, Feb. 17, 2014, at A1 (noting that there is no scientific consensus that global warming is causing a worldwide phenomenon of drought but that the effects of drought appear to have been made worse by climatic warming).

4. See Robert B. Keiter, *Wildfire Policy, Climate Change, and the Law*, 1 TEX. WESLEYAN J. REAL PROP. L. 501, 507–12 (2012) (discussing warmer temperatures, drier conditions, and significant amounts of acreage subject to recent wildfires in the southwestern U.S.).

5. The National Climatic Data Center of the National Oceanic and Atmospheric Administration is a resource for monitoring and assessing national climate and historical weather data. *National Climatic Data Center*, NOAA, <http://www.ncdc.noaa.gov/> (last visited Mar. 29, 2015). See generally *Explaining Extreme Events of 2013 From a Climate Perspective*, 95 BULL. AM. METEOROLOGICAL SOC’Y (SPECIAL SUPPLEMENT) S1 (Sept. 2014) (attempting to link extreme weather events from 2013 to climate change); *State of the Climate in 2013*, 95 BULL. AM. METEOROLOGICAL SOC’Y (SPECIAL SUPPLEMENT) S1 (July 2014) (gathering worldwide data of climate indicators throughout the environment).

6. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY SUMMARY FOR POLICYMAKERS 14 (2014), available at http://www.ipcc-wg2.gov/AR5/images/uploads/IPCC_WG2AR5_SPM_Approved.pdf (“Increasing magnitudes of warming increase[s] the likelihood of severe, pervasive, and irreversible impacts.”).

7. *Id.* at 18 (noting further that “[a]ll aspects of food security are potentially affected by climate change”).

legislatures, or the courts. Indeed, those following the development of climate policy have called it “the lost decade.”⁸ In fact, in the United States, some of the legal tools that do exist provide limited assistance to combat the looming humanitarian crisis.⁹ Our premier federal environmental laws, such as the Clean Air Act (“CAA”)¹⁰ and the Endangered Species Act (“ESA”), have proven a poor fit for combating greenhouse gas (“GHG”) pollution and its consequences.¹¹ While many environmentalists urge Congress to consider a carbon tax or federal cap-and-trade program, nothing of the sort has come to fruition.¹² State

8. Richard O. Faulk & John S. Gray, *Climate Change Regulation and Litigation: A “Lost Decade” of Controversy and Confrontation*, 61 THE ADVOC. (TEXAS) 13, 13 (2012).

9. See MACKINNON WEBSTER ET AL., FEINSTEIN INT’L CENTER, THE HUMANITARIAN COSTS OF CLIMATE CHANGE 5 (2008) (reporting that climate change will have a significant impact on humanitarian costs); Maxine Burkett, *Climate Reparations*, 10 MELBOURNE J. INT’L L. 509, 515–35 (2009) (examining why legal and political systems are unable to address the moral challenge of climate change and crafting a proposal for remedies to climate vulnerable).

10. See Arnold W. Reitze, Jr., *Federal Control of Carbon Dioxide Emissions: What Are the Options?*, 36 B.C. ENVTL. AFF. L. REV. 1, 1–8 (2009) (explaining why the CAA is ill-equipped to regulate GHG emissions such as carbon dioxide).

11. Todd S. Aagaard, *Environmental Law Outside the Canon*, 89 IND. L.J. 1239, 1240–42 (2014) (noting that environmental law is in a malaise and that the next generation must be able to tackle new problems like climate change); see J. B. Ruhl, *Climate Change and the Endangered Species Act: Building Bridges to the No-Analog Future*, 88 B.U. L. REV. 1, 58–62 (2008) (outlining strategies to assist species beyond ESA-typical means such as assisted migration). In terms of the ESA, scholars have counseled against launching attacks using the ESA, among other existing environmental laws, to combat GHG pollution. Professor J. B. Ruhl notes:

I have contested this strategy as being legally, practically, and politically ill-advised. The ESA, for example, is not structured to provide effective greenhouse gas emissions control. Applying it would require isolating and linking emissions from, say, a power plant in Florida to effects on a distant climate-threatened species—a feat beyond scientific capacity.

J. B. Ruhl, *Climate Change Adaptation and the Structural Transformation of Environmental Law*, 40 ENVTL. L. 363, 432 (2010) [hereinafter Ruhl, *Structural Transformation*] (citations omitted); see J. B. Ruhl, *Climbing Mount Mitigation: A Proposal for Legislative Suspension of Climate Change “Mitigation Litigation,”* 1 WASH. & LEE J. ENERGY, CLIMATE & ENV’T. 71, 77–90 (2010) (examining the dysfunctional attributes of mitigation litigation for the formulation of coherent climate policy). There is, however, much potential for existing laws to assist in climate adaptation. See Paul Stanton Kibel, *A Salmon Eye Lens on Climate Adaptation*, 19 OCEAN & COASTAL L.J. 65, 66 (2013) (discussing ESA, NEPA, and CEQA gaps that, if filled, could assist coldwater fish with climate adaptation).

12. See Reuven S. Avi-Yonah & David M. Uhlmann, *Combating Global Climate Change: Why a Carbon Tax is a Better Response to Global Warming than Cap and Trade*, 28 STAN. ENVTL. L.J. 3, 35–50 (2009) (making the case for a carbon tax rather than a federal cap-and-trade program); Robert N. Stavins, *A Meaningful U.S. Cap-And-Trade System to Address Climate Change*, 32 HARV. ENVTL. L. REV. 293, 357–59 (2008) (acknowledging economic efficiency as a compelling consideration in an orderly transition from fossil fuels and addressing common objections to a cap-and-trade system); Jonathan Crawford, *Riding Obama’s Coattails on Climate, Sanders, Boxer Introduce Carbon Tax Proposal*, SNL FERC POWER REP., Feb. 20, 2013, at 1–2 (noting that environmental advocacy groups support climate-related legislation).

legislatures and local governments have moved forward with strategies to address GHG pollution and combat climate change impacts. Of particular importance is the adoption of renewable energy targets.¹³

Despite some modest gains, renewable energy from non-carbon sources—such as wind, solar, and hydroelectric—has not moved quickly enough to replace dependence on GHG technologies. Although alternative energy sources like renewables may replace natural gas worldwide as the second largest source of energy as soon as 2016 (second to coal), the growth in worldwide markets is often dependent on the price of renewables in relation to traditional sources (coal, natural gas, and oil).¹⁴ The International Energy Agency estimates that worldwide subsidies for oil are six times that of incentives for renewables.¹⁵ In a shift away from traditional subsidies, curtailment of the full application of environmental statutes has captured attention as one means to expedite renewable energy infrastructure.

This Article examines attempts to ration environmental law for renewable energy development in the face of climate change. This Article argues that rationing environmental law is not the best solution, but it is a step worth taking based on the reality of political failures, market forces, and horrifying consequences of unchecked fossil fuel dependence. Part I sets the crisis in context of survival and marginal gains in greening the grid. Part II examines a variety of rationing

13. Most prescriptions for sustainable energy policy include two important components for rapid gains: energy efficiency and conservation and the significant increase in renewable energy production. *See, e.g.*, INGRID KELLEY, *ENERGY IN AMERICA: A TOUR OF OUR FOSSIL FUEL CULTURE AND BEYOND* (2008); AMORY B. LOVINS & ROCKY MOUNTAIN INST., *REINVENTING FIRE: BOLD BUSINESS SOLUTIONS FOR THE NEW ENERGY ERA* (Joni Praded & Nancy Ringer eds., 2011).

14. *See IEA: Global Renewable Energy on Fast Track*, FREDERICK NEWS-POST (June 27, 2013, 2:00 AM), http://www.fredericknewspost.com/news/economy_and_business/business_topics/energy/article_b3176515-9aea-5f14-9912-19f04627bd84.html (discussing that renewable energy is growing quickly around the world while the costs of renewables are falling below the costs of traditional power sources such as coal, natural gas, and oil in some markets); Emily Micucci, *Lower Natural Gas Prices Could Impact Solar, Wind*, WORCESTER BUS. J. ONLINE (Sept. 30, 2013, 9:29 AM), <http://www.wbjournal.com/article/20130930/PRINTEDITION/309289984/lower-natural-gas-prices-could-impact-solar-wind> (showing how changing natural gas prices have an effect on the development of solar and wind renewable energy).

15. *Compare* INT'L ENERGY AGENCY, *REDRAWING THE ENERGY-CLIMATE MAP: WORLD ENERGY OUTLOOK SPECIAL REPORT 11* (2013) ("Fossil-fuel subsidies amounted to \$523 billion in 2011, around six times the level of support to renewable energy."), *with* INT'L ENERGY AGENCY, *WORLD ENERGY OUTLOOK 2011*, at 507 (2011) (noting that in 2010, fossil-fuel consumption subsidies amounted to \$409 billion worldwide while renewable energy subsidies grew to \$66 billion). The International Energy Agency promotes reducing subsidies to fossil fuel consumption as one of four policy methods of keeping open the possibility of a two-degree Celsius scenario without net economic cost. *Id.* at ii.

efforts that could serve as models for expansion within the alternative energy context, while Part III looks at two examples outside that context. Part IV makes the case for rationing by arguing that environmental law must be a tool for actual survival.

I. A TIME FOR RATIONING

The purpose of this Part is to explain why the time for rationing environmental law to expedite the creation of renewable energy is here. By rationing environmental law, I mean the selective or limited application of bedrock environmental laws to renewable energy in response to the urgent need to address climate change. Rationing may take different forms. One way to conceive of rationing is that the regulatory entity has reduced the number of substantive legal requirements. Another form may be the elimination of required processes and time frames. Additionally, the governmental agency with enforcement jurisdiction may choose to ignore violations of existing substantive legal requirements. Part II of the Article details concrete examples of how rationing has worked in the context of renewable energy projects. As Part II shows, rationing has real costs, including not only the sacrifice of environmental principles, but also, sometimes, the death of wildlife or the destruction of natural beauty. For this reason, as the following metaphor suggests, rationing environmental law is a morbid tale of survival.

A. *The Survivor Type Metaphor*

In the short but powerful horror story, *Survivor Type*, author Stephen King introduces us to disgraced surgeon, Richard Pine (Pinzetti).¹⁶ Trapped on an island hoping for rescue, he breaks his ankle trying to flag down a passing plane.¹⁷ Desperate to survive, he amputates his foot and eats it to stay alive.¹⁸ Though he acts with the skill of a surgeon and is able to ingest a strong drug to dull the physical pain of his amputation, the psychological impacts of his actions are significant.¹⁹ Over time, as his mind deteriorates, he continues to self-cannibalize to avoid starvation.²⁰ Each amputation makes self-sufficient hunting for food more challenging, but sustains him for the time being as he hopes for rescue from the outside world—a rescue that

16. STEPHEN KING, *Survivor Type*, in *SKELETON CREW* 361, 361–78 (1985).

17. *Id.* at 366–67.

18. *Id.* at 367–71.

19. *Id.* at 370–74.

20. *Id.* at 374–78.

never comes.²¹

Pinzetti's attempt at survival is not unlike that taken by the U.S. government in response to climate change. The fifth assessment of climate science released by the IPCC seriously calls into question the capacity for humans to continue to survive a rapidly warming planet.²² Mainstream media picked up the story, with *Time Magazine Online* summarizing as follows:

So the report predicts with high confidence that the negative impacts of warming on crop yields will outweigh any potential positive impacts; that violent conflict will exacerbate the effects of global warming; that glaciers will continue to shrink as the climate warms, which has major impacts for downstream water supplies; that species on land and in the sea are shifting their range in response to warming and that some will face an increased risk of extinction; that health impacts will be felt from heat waves and from floods in low-lying areas; that the seas will continue to acidify, destroying coral reefs.²³

Rationing the laws that have heretofore protected and restored our physical environment shares many analogies with *Survivor Type*. To some, bedrock environmental laws such as the CAA,²⁴ the Clean Water Act ("CWA"),²⁵ the National Environmental Policy Act ("NEPA"),²⁶ and the ESA²⁷ are like Pinzetti's limbs.²⁸ Pinzetti cutting off his own limbs for survival simply seems too hard to swallow, and to some death might seem more palatable.²⁹ Similarly, it is taboo to suggest that the

21. *Id.*

22. *See generally* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 6.

23. Bryan Walsh, *Warming World Threatens Us All, Warns U.N. Report*, TIME (Mar. 30, 2014), <http://time.com/43118/climate-change-global-warming-united-nations/>.

24. 42 U.S.C. § 7401 (2012).

25. 33 U.S.C. § 1251 (2012).

26. 42 U.S.C. § 4321.

27. 16 U.S.C. §§ 1531–1544 (2012).

28. This analogy is meant to reflect the debate over the full application of environmental laws to renewable energy projects among policymakers, academics, and environmental activists. Although many have noted the disconnect between energy and environmental law, and its attendant constraint on shifting from fossil fuels to renewables, there still remains reluctance to abandon the traditional mode of regulation. *See infra* note 59 and accompanying text (describing how environmental law has not necessarily been a hindrance to renewable energy products, but that it has not fostered them either).

29. This is a reasonable response, given the sustained opposition to environmental laws by some interest groups and frequent proposals to rollback legal protections of the environment and wildlife. The ESA in particular is constantly under attack. *See, e.g.*, Matthew Brown, *GOP Seeks Overhaul of Endangered Species Act*, TAMPA TRIB. ONLINE (Feb. 4, 2014), <http://tbo.com/news/politics/gop-seeks-overhaul-of-endangered-species-act-20140204/> (detailing congressional Republicans' efforts to overhaul the ESA to curtail environmentalists' lawsuits and give more power to the states).

U.S. government should only apply a limited amount of its environmental laws to renewable energy projects, even if it may mean ultimate survival. The very suggestion offends in principle, but also as applied, because, in fact, all renewable energy projects have the potential for significant disruption of the environment, wildlife, habitat, and aesthetics. If we hobble any one of our bedrock environmental laws in the goal of expediting renewable projects, will these laws be forever altered? Even if we don't throw the proverbial baby out with the bathwater, will the hole in the bathtub be too large to ever plug?

B. Rationing in the Context of the Energy Landscape

Timing is everything. Rationing environmental law in a time of climate change is necessary given the marginal progress on renewable energy deployment and significant uptick in fossil fuel production in the U.S. "Global warming can be conceptualized as fundamentally a symptom of resource exploitation."³⁰ Popular rhetoric that promotes building a "bridge to tomorrow" on the back of less carbon-intense natural gas has now been part of the lexicon for years.³¹ Most estimates allow that to avoid the most catastrophic impacts of climate change, we have within ten years to make a transition to an energy supply with dramatically reduced GHG emissions.³² Any bridge that represents a true transition must be crossed today, and there is not only no other side (fully reducing GHGs to appropriate levels) in sight, but also digging the supports for such a bridge has not yet commenced, as we still have no electricity grid to sufficiently support and facilitate renewable energy transmission.

In contrast, the trends in shale gas and unconventional oil, such as Canadian tar sand development, raise the likelihood that the pressure of "peak oil" and market forces will not favor reductions in fossil fuel use globally within the next two decades.³³ Oil-by-Rail infrastructure is

30. WILLIAM H. RODGERS, JR. ET AL., *CLIMATE CHANGE: A READER* 512 (2011).

31. See Richard J. Pierce, Jr., *Natural Gas: A Long Bridge to a Promising Destination*, 32 UTAH ENVTL. L. REV. 245, 245 (2012) (examining the bridge fuel metaphor).

32. Various sources identify timelines for the most orderly transition. Factors include the "lock[-]in" of infrastructure that demands earlier changes necessary for the potential to avoid going above an average global temperature rise of two degrees Celsius. WORLD ENERGY OUTLOOK 2011, *supra* note 15, at 4.

33. See AM. PETROLEUM INST., *THE STATE OF AMERICAN ENERGY: AMERICA'S ENERGY, AMERICA'S CHOICE* 6 (2014) (presenting a rosy picture of the future of oil and natural gas in the U.S.). For example, the report states:

This report highlights how America can choose a future where the oil and natural gas industry continues to contribute to our nation's economic recovery and job creation; to develop and utilize state-of-the-art technologies to safely discover, extract, refine, and

well into the implementation phase, despite repeated headline-capturing accidents occurring monthly.³⁴ The U.S. is investing in infrastructure to facilitate the processing of oil and natural gas from fracking operations.³⁵ Simply put, the momentum is still strongly in the wrong direction to maximize the potential for long-term survival.

Despite the President Obama Administration's Climate Action Plan ("CAP") adopted in 2013, the controversial Keystone XL pipeline debate helps to bring into sharp relief the continued poor policy decision-making occurring at the highest levels in the U.S.³⁶ As noted by a recent Congressional Research Service Report on President Obama's CAP: "Members of Congress continue to be divided in their views on whether climate change risks merit raising current costs to the economy in exchange for benefits that would mostly accrue to future generations, people in other countries, and stability of Earth systems."³⁷

Considerable progress has been made to boost renewable energy at the state level, yet it is not nearly enough. Many states have adopted CAPs despite the absence of a federal mandate to reduce carbon emissions.³⁸ Primary in those plans is adoption of Renewable Portfolio Standards ("RPS") that require a certain amount of energy be produced by wind, solar, hydroelectric, or other non-carbon sources.³⁹ About 40% of all carbon dioxide emissions in the U.S. come from the electric generation sector.⁴⁰ Some states also incentivize renewable energy

transport oil and natural gas; and to enable the U.S. to become a global energy superpower.

Id.

34. The uptick in oil transported by rail from the Bakken Shale has angered many New Yorkers. U.S. Energy Secretary Ernest Moniz says the U.S. does not yet have the infrastructure to handle the increased production. Scott Waldman, *Energy Secretary: U.S. Infrastructure Unready for Rail-Crude Boom*, CAPITAL N.Y. (Feb. 19, 2014, 5:00 AM), <http://www.capitalnewyork.com/article/albany/2014/02/8540490/energy-secretary-us-infrastructure-unready-rail-cru> de-boom.

35. See IHS GLOBAL INC., OIL & NATURAL GAS TRANSPORTATION & STORAGE INFRASTRUCTURE: STATUS, TRENDS, & ECONOMIC BENEFITS 11 (2013) (discussing the increase in U.S. investment in oil and gas infrastructure).

36. See JANE A. LEGGETT, CONG. RESEARCH SERV., R43120, PRESIDENT OBAMA'S CLIMATE ACTION PLAN 11–12 (2014) (reviewing President Obama's CAP for reducing emissions of carbon dioxide and other GHGs and for encouraging adaptation to expected climate change).

37. *Id.* at 1.

38. See DAVID HODAS, AM. BAR ASS'N, GLOBAL CLIMATE CHANGE AND U.S. LAW 343–70 (Michael B. Gerrard ed., 2007) (discussing the efforts made by states to adopt law or policy to address climate change). As Professor Hodas explains, "In the absence of federal leadership on global warming, state and local governments have moved into this void." *Id.* at 343.

39. *Id.* at 355–59.

40. *Id.* at 354.

production in the transportation sector, through the use of transportation plans that focus both on alternative fuels and reducing Vehicle Miles Travelled.⁴¹ Accounting for twenty-seven percent of GHG emissions, transportation emissions are also an important factor in overall climate mitigation policy.⁴² Thus, both in the production of electricity with coal and natural gas-fired plants, and in the use of fossil fuels for vehicle transportation, the U.S. continues to rely heavily on a fossil fuel energy infrastructure.⁴³ The U.S. has to build a renewable energy infrastructure before fossil fuel use will abate.

Many states have a RPS, or are in the process of adopting one.⁴⁴ However, with various RPS deadlines—originally established a decade ago—now looming on the horizon, some states are considering amendments to their methodology or revising downward original targets to achieve more modest goals. Mandatory and voluntary RPSs have been under attack in legislatures, think tanks, and the courts.⁴⁵ According to a report by the Center for the New Energy Economy at Colorado State University, most RPSs have survived the most recent assault,⁴⁶ made acute following the dissemination of the ALEC

41. *Id.* at 353.

42. See OFFICE OF TRANSP. & AIR QUALITY, FAST FACTS: U.S. TRANSPORTATION SECTOR GREENHOUSE GAS EMISSIONS 1990–2011, at 1 (2013) (explaining the percentage transportation contributes to the overall GHG emissions in the U.S.).

43. See Joshua P. Fershee, *Struggling Past Oil: The Infrastructure Impediments to Adopting Next-Generation Transportation Fuel Sources*, 40 CUMB. L. REV. 87, 89 (2009) (discussing both physical and psychological infrastructure roadblocks to alternative transportation options).

44. GALEN BARBOSE, LAWRENCE BERKELEY NAT'L LAB., RENEWABLES PORTFOLIO STANDARDS IN THE UNITED STATES: A STATUS UPDATE 3 (2013), available at http://emp.lbl.gov/sites/all/files/rps_summit_nov_2013.pdf (summarizing that twenty-nine states and Washington, D.C. have RPS, and seven more states have non-binding standards).

45. For example, Ohio adopted Senate Bill 310, which froze for two years RPS standards that would have otherwise increased. The original law required a 5.5% increase in renewable energy by 2017, whereas the revised measure will lower that to a 3.5% increase. Kate Sheppard, *Ohio Legislature Votes to Delay and Weaken State's Renewable Energy Law*, HUFF. POST, (May 28, 2014, 4:59 PM), http://www.huffingtonpost.com/2014/05/28/ohio-renewable-energy_n_5406108.html. The American Legislative Exchange Council ("ALEC") has continued efforts to weaken or repeal RPS, including a draft bill called the Market Power Renewable Act, which would phase down standards over time, eliminating them by 2025. *Anti-Regulatory Group Eyes New Attack on State Renewable Mandates*, CLEAN ENERGY REP., Aug. 19, 2013, at 1–2; see Draft Memorandum from Todd Wynn, Task Force Director, Am. Legis. Exchange Council, to Energy, Environment and Agricultural Task Force Members, at 29–30 (July 3, 2013), available at <http://www.documentcloud.org/documents/748076-alec-aug-2013-agenda-energy-environment-a-mp-ag.html> (containing model state-level legislation set forth by the ALEC to weaken or repeal RPS).

46. CTR. FOR NEW ENERGY ECON. COLO. ST. U., STATE RENEWABLE PORTFOLIO STANDARDS HOLD STEADY OR EXPAND IN 2013 SESSION (2013), available at <http://www.aeltracker.org/graphics/uploads/2013-State-By-State-RPS-Analysis.pdf> [hereinafter

“Electricity Freedom Act” in late 2012.⁴⁷ The Center analyzed rollbacks, modifications, and increases. In the 2013 session, twenty-six bills proposed rollbacks, twenty-nine increases, and sixty-six modifications.⁴⁸ Nonetheless, expanded RPS would help to create a larger market and boost the interest in development. When the renewable energy infrastructure is built, the next iterations of energy innovations can begin.⁴⁹ We are, as it were, still at step one, with insufficient infrastructure to support expanded renewable project input to the electricity grid or electric vehicle fleets.

California is possibly the only bright spot for climate mitigation efforts. With AB32, the Greenhouse Gas Solutions Act,⁵⁰ a mandate to meet 1990 emissions levels by 2020 and thirty-three percent renewables by 2020,⁵¹ experts have predicted that California will have an over-supply of renewable energy during daylight hours posing challenging engineering questions.⁵² California is often held out as an example of how to transition to a low-carbon future.⁵³ California’s economy has stayed strong throughout these efforts. Innovation continues to be a driver in the economy and illustrates that the future may well look brighter regardless of the transition away from fossil fuels.⁵⁴ Yet, even

STATE RPS HOLD STEADY]; see U.S. ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2014, at LR-2 (noting that recent modifications to existing state programs do not have significant substantive effects on the representation of the RPS programs).

47. *Electricity Freedom Act*, AM. LEGIS. EXCH. COUNCIL (Oct. 18, 2012), <http://www.alec.org/model-legislation/electricity-freedom-act/>.

48. STATE RPS HOLD STEADY, *supra* note 46, at 2 (emphasizing that many of the passed bills provided gains in RPS standards).

49. Many sources cite ways that change to renewable energy can be synergistic throughout different sectors. For example, widespread use of electric vehicles could help grid reliability and efficiency. LOVINS, *supra* note 13, at 12. The U.N. emphasizes co-benefits including the enhancement of human health from reduction of co-pollutants. See *infra* note 247 and accompanying text.

50. California Global Warming Solutions Act of 2006, CAL. HEALTH & SAFETY CODE § 38560 (2014) (setting the GHG emissions reduction goal into law).

51. *Id.*

52. See David R. Baker, *Energy Grid ‘Duck Chart’ Used to Wade into Timing Issues*, SF GATE (Aug. 26, 2013, 4:54 PM), <http://www.sfgate.com/business/article/Energy-grid-duck-chart-used-to-wade-into-timing-4762718.php> (using the duck chart to examine renewable energy distribution options); *What the Duck Curve Tells Us About Managing a Green Grid*, CAL. ISO, http://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf (last visited Mar. 29, 2014) (setting forth potential policies to satisfy the increasing California state electricity demand).

53. Regulatory structures and economic incentives both provide support for climate mitigation efforts in the state. Moreover, lawmakers can draw upon the history of California as environmentally forward-thinking to galvanize support for advancements in climate mitigation and adaptation measures.

54. Former sources of energy have been eliminated as alternatives emerge. For example,

the ambitious renewable energy goals set by California are vulnerable to rollback efforts.⁵⁵ Until the renewable energy infrastructure is built, critics will deny its viability and continue claims of economic collapse.

If the threats of climate change are at a point of wide agreement, why does it remain so difficult to transition to a renewable energy economy? The challenge to increase renewable energy stems from many factors. First, existing sources of energy generation enjoy market advantage.⁵⁶ Next, policies designed to allow a return of investment and equity, also known as “grandfathering” policies, have allowed for old technology that emit more GHG pollution to evade upgrading to more efficient and less polluting alternatives.⁵⁷ The unintended consequence is that new projects are less competitive, which in turn dampens innovation. Some critics have argued that risk-assessment processes in the U.S. favor existing technologies that are known to cause major harm over unknown risks regardless of the predictions for comparatively smaller impacts. This risk aversion has allowed oil projects, with well-known, high risk-and-harm profiles, to proceed at a faster clip than energy projects such as marine renewables offshore with predicted low impacts to the environment.⁵⁸

whale oil. LOVINS, *supra* note 13, at 13.

55. Ralph Vartabedian & Evan Halper, *California's Alternative-Energy Program Under Scrutiny*, L.A. TIMES (Oct. 13, 2013), <http://articles.latimes.com/2013/oct/13/local/la-me-energy-subsidies-20131014> (explaining the problems with California's Alternative-Energy Program and possible repercussions).

56. Felix Mormann, *Requirements for a Renewables Revolution*, 38 ECOLOGY L.Q. 903, 919–25 (2011) (discussing three market barriers to renewables competing with fossil fuels—a long history of fossil fuel subsidies, the lack of differentiation from renewables, and the peculiarities of the electricity market).

57. For a discussion of grandfathering and fairness, see Heidi Gorovitz Robertson, *If Your Grandfather Could Pollute, So Can You: Environmental “Grandfather Clauses” and Their Role in Environmental Inequity*, 45 CATH. U. L. REV. 131 (1995). The dispute for purposes of climate change is most acute in the context of upgrades to electricity-generating power plants. See Jonathan Remy Nash & Richard L. Revesz, *Grandfathering and Environmental Regulation: The Law and Economics of New Source Review*, 101 NW. U. L. REV. 1677, 1687–706 (2007) (criticizing the Bush approach to New Source Review (“NSR”) program in light of the former EPA approach). At issue is a disputed term, “modification,” and when “major modification” occurs such that NSR upgrades are required. See *Env'tl. Def. v. Duke Energy Corp.*, 549 U.S. 561, 566–67 (2007) (holding that modification need not be interpreted identically for purposes of PSD and New Source Performance Standards (“NSPS”) NSR); *Wis. Elec. Power Co. v. Reilly*, 893 F.2d 901, 907 (7th Cir. 1990) (NSR modification requires both physical change in the facility and increase in emissions); see also Richard L. Revesz & Allison L. Westfahl Kong, *Regulatory Change and Optimal Transition Relief*, 105 NW. U. L. REV. 1581, 1585–94 (2011) (discussing “old” and “new” views of grandfathering).

58. Ian Boisvert, *Mountains of “Blue Tape” Barriers to United States and New Zealand Marine Renewable Energy Projects*, in OCEAN ENERGY SYS., GLOBAL STATUS AND CRITICAL DEVELOPMENTS IN OCEAN ENERGY, OCEAN ENERGY SYSTEMS IMPLEMENTING AGREEMENT

C. Resistance to Rationing

The status quo is widely understood as unsustainable. Policymakers have thus turned to rationing the application of environmental laws to renewable energy projects. Seeking to boost the amount of renewable, non-carbon energy and overcome the entrenched advantage of existing carbon-emitting technology, this selective application approach has met with criticism and resistance.

First, it is contended that only in strict application of all environmental laws will policymakers be able to discern the best mix of energy generation for the environmental harm trade-offs.⁵⁹ All forms of energy generation have environmental impacts, including wildlife harms, land consumption, displacement of alternative uses, industrialization, and aesthetic harm. While some forms of energy production cause more environmental harm than others, none are without their attendant impacts. Thus, under this view, the future will unfold over time as policymakers and public and private forces scrutinize each project and ultimately achieve a perfect balance of multiple sources of energy in an energy nirvana. The potential for overdevelopment of any one form of energy production, which raises claims of inefficiency and waste, remains debatable.

Next, related to the first criticism, it is contended that it is not possible to select even a single project that is “green” and worthy of special treatment under the law.⁶⁰ What appears to be a pre-determined positive step forward could turn out to be a net loser once the full panoply of impacts is evaluated. Allowing any project to skip through initial steps would potentially result in great regret. Under this view, no gates should be opened for projects with carbon reduction potential because in seeking to reduce carbon pollution the other environmental

132, 136 (Dr. J. Huckerby & Dr. A. Brito e Melo eds., 2012).

59. See, e.g., Alexandra B. Klass, *Renewable Energy and the Public Trust Doctrine*, 45 U.C. DAVIS L. REV. 1021, 1065 (2012) (warning that renewable energy projects might not achieve their intended goals); John Copeland Nagle, *Green Harms of Green Projects*, 27 NOTRE DAME J.L. ETHICS & PUB. POL’Y 59, 89–92 (2013) (presenting arguments why renewable projects should be subject to laws regulating environmental harms regardless of climate change benefits). One scholar has observed that environmental law has not necessarily stood as an obstacle to renewable energy development, although it has not promoted its advancement either. Amy J. Wildermuth, *Is Environmental Law a Barrier to Emerging Alternative Energy Sources?*, 46 IDAHO L. REV. 509, 537 (2010) (noting that environmental law is “anti-anti-environment” but not necessarily pro-environment or pro-ecology in a way that would benefit renewable energy development).

60. J. B. Ruhl, *Harmonizing Commercial Wind Power and the Endangered Species Act Through Administrative Reform*, 65 VAND. L. REV. 1769, 1788–93 (2012).

impacts of such development might be too great to bear.

Finally, there is a philosophical and cultural aversion to rationing environmental law. While environmental protection has seeped into the consciousness of many Americans, it is still fought at every turn by business interests. The gains made over the past decades cannot be taken for granted. It is reasonable to view them as fragile. For example, the ESA is regularly called a “job killer” by critics and bills to repeal its provisions or reduce its effectiveness have been introduced in Congress to further development interests on multiple occasions.⁶¹ Such assaults continue despite surveys that indicate Americans on the whole support the protection afforded by the ESA and many would support expanding its reach and protections.⁶²

The environmental community has also had to contend with reduced application of laws to existing operations, as in the CAA’s New Source Review program. Thus, a version of rationing environmental law has always existed if you take into account the lax environmental enforcement against violators of the law in a variety of pollution contexts. For example, the Environmental Protection Agency (“EPA”) recently issued a record CWA violation penalty against Massy Energy over violations relating to coal ash pollution.⁶³ Commentators hypothesize that the action reflects an evolution of President Obama’s climate policy.⁶⁴ This is to say that such violations may have received little attention from the EPA when coal production was favored for

61. The listing of the Northern Spotted Owl and impact on logging communities spurred significant debate, political backlash and proposals for ESA roll-backs. Stephen M. Meyer, *The Economic Impact of the Endangered Species Act on the Housing and Real Estate Markets*, 6 N.Y.U. ENVTL. L.J. 450, 452 (1998). Beyond the timber and house-building industries, examples of the tension between economic development and the ESA include water projects and restrictions on deliveries to agricultural users. M. LYNNE CORN & KRISTINA ALEXANDER, CONG. RESEARCH SERV., R42945, THE ENDANGERED SPECIES ACT (ESA) IN THE 113TH CONGRESS: NEW AND RECURRING ISSUES, 11–12, 14–16 (Jan. 13, 2014) (discussing Klamath River Basin and Delta Smelt controversies and legislative proposals to address each). To combat the negative impression, a National Wildlife Federation fact sheet seeks to dispel various myths about the ESA, including the charge that it is a “job killer.” NATIONAL WILDLIFE FOUND., *Endangered Species Act: Myths and Facts*, <http://www.nwf.org/pdf/Wildlife/esamythsfacts.pdf> (last visited Mar. 29, 2015).

62. CTR. FOR BIOLOGICAL DIVERSITY, DEFENDERS OF WILDLIFE, AND ENDANGERED SPECIES COALITION, A WILD SUCCESS: AMERICAN VOICES ON THE ENDANGERED SPECIES ACT AT 40 (2014), available at http://www.biologicaldiversity.org/campaigns/esa_wild_success/pdfs/A_Wild_Success.pdf; Press Release, Ctr. for Biological Diversity, New Report to Congress Reflects Strong Public Support for Endangered Species Act (Feb. 19, 2014) (on file with author).

63. Dina Cappiello, *Coal Company to Pay Record \$27.5 Million Fine for Pollution in Kentucky, Four Other States*, ASSOCIATED PRESS, Mar. 5, 2014, available at <http://www.kentucky.com/2014/03/05/3122855/coal-company-will-pay-record-275.html>.

64. *Id.*

energy policy purposes. The reality of fragile environmental gains coupled with a measure of prosecutorial discretion translates into an ethic of solidarity with environmental laws regardless of the negative implications in any particular case.⁶⁵ But the war mentality has not been universally successful and has by some accounts seriously eroded public trust in the environmental movement.⁶⁶

The final stage of climate grief is acceptance. Without Herculean efforts, a green grid will not surface.⁶⁷ And under existing protocols, even with Herculean efforts it may take too much time to avoid the worst climate disasters. As policymakers grapple with these challenges, a variety of efforts to change business as usual have emerged. Examining current efforts at rationing environmental law illustrates the dangers and the potential reward.

II. RATIONING ENVIRONMENTAL LAW FOR ALTERNATIVE ENERGY

The pressure to develop new energy sources has never been greater.⁶⁸

65. A good counter-argument would be the debate over applying NEPA to monument designations under the Antiquities Act. While the conservation community has typically endorsed broad NEPA application, it does not support adding the NEPA process to monument designations. Under the Antiquities Act, the President may declare a national monument on federal public lands, and thereby extend protection from extractive uses, without regard to the public comment process contemplated by NEPA. Development interests supporting a bill to add such a requirement argue that if public comment is a good thing, adding it in this instance should be supported. Conservation advocates contend that the presidential power needs to be unencumbered by NEPA because designations can be made quickly when the land is otherwise in danger of exploitation and that NEPA would add unnecessary delay. *See House Approves New NEPA Restraint on Monument Designations*, PUB. LANDS NEWS, Mar. 28, 2014, at 1–3 (discussing H.R. 1459). Representative Rob Bishop noted that it was “hypocritical” of Democrats and environmentalists to require review for commercial but not conservation uses. *Id.* at 2; *see* Rob Bishop, Floor Speech: Ensuring Public Involvement in the Creation of National Monuments Act (Mar. 26, 2014), *available at* <http://votesmart.org/public-statement/859758-ensuring-public-involvement-in-the-creation-of-national-monuments-act#.U4ylretRZhA> (arguing that it is senseless to say public involvement is beneficial in almost every situation, except when the President is involved, because he is head of the executive branch).

66. *See* Ruhl, *Structural Transformation*, *supra* note 11, at 431–33 (examining conciliation as a trend to situate environmental law more productively in adaptation strategies).

67. Among the many challenges, a joint initiative of the Western Governors’ Association and the U.S. Department of Energy identified the lack of transmission capacity from generating locations to population centers where the energy is in demand as the greatest challenge to utility scale renewable energy. W. GOVERNORS’ ASS’N & U.S. DEP’T OF ENERGY, WESTERN RENEWABLE ENERGY ZONES - PHASE 1 REPORT, at 3 (2009) (“Lack of cost effective transmission access [is] the greatest impediment to the rapid development of utility-scale, renewable-rich resource areas.”).

68. David J. Lazerwitz & Matthew E. Bostick, *NEPA Processes for Energy Projects: Unique Challenges and New Directions* 11-7 (Rocky Mt. Min. L. Fdn., Paper No. 11, 2010) (“There is perhaps no other time in our history . . . when the pressure to develop new energy resources has been greater.”).

The environmental-related laws that apply to energy projects are numerous and complex, often overlapping.⁶⁹ In some instances the laws are uncertain, leading to delay. Lawsuits are ripe often at early planning stages. Opponents have used the threat of litigation to prevent development in specific locations.

As the following examples demonstrate, there are multiple efforts afoot to expedite renewable energy projects. Some rely on land-use pre-planning, others on small-size exemptions and use of experimental permits. While the logistical details are different, the end goal—more renewable energy for the grid as soon as possible—is the same.

A. Wind Energy

This Subpart outlines the technology of wind energy and discusses its potential impact on the environment and how the installation of wind power is regulated. The rationing program examined relates to land-use pre-planning. Wind energy represents a demonstrated high-capacity technology that the U.S. is likely to expand on greatly in the coming years both on- and offshore.⁷⁰

1. Technology and Environmental Impacts

The technology to produce energy from wind is well established.⁷¹ Turbines capture the wind passing over their blades and the rotation creates electric energy.⁷² No carbon emissions are associated with wind power once installed.⁷³ Ranging in capacity, the deployment of wind

69. This Article does not investigate matters such as energy regulation, fair competition, tariffs, or taxes. For purposes of this Article, only the primary environmental-related laws that energy developers must comply with are examined. For a useful discussion of tax policy and climate change, see generally Roberta Mann, *Subsidies, Tax Policy, and Technological Innovation*, in *GLOBAL CLIMATE CHANGE AND U.S. LAW 565* (Michael B. Gerrard ed., 2007).

70. As it is a demonstrated technology, the U.S. government is investing in research to better understand and reduce environmental impacts. *E.g.*, U.S. DEP'T. OF ENERGY, OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY, ENVIRONMENTAL PROJECTS REPORT: FISCAL YEARS 2006–2014, at 3–9 (2014) (summarizing and discussing numerous energy efficiency-related research and projects performed by the U.S.).

71. *Id.* at 2.

72. The turning of the turbine blades spins a shaft that connects to a generator and makes electricity. *How Do Wind Turbines Work?*, DEP'T OF ENERGY, OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY, <http://energy.gov/eere/wind/how-do-wind-turbines-work> (last visited Mar. 29, 2015); see Ronald H. Rosenberg, *Diversifying America's Energy Future: The Future of Renewable Wind Power*, 26 VA. ENVTL. L.J. 505, 517–20 (2008) (explaining how wind produces electricity and examining wind power sources in the U.S.).

73. See Dennis Y. C. Leung & Yuan Yang, *Wind Energy Development and its Environmental Impact: A Review*, 16 RENEWABLE & SUSTAINABLE ENERGY REVS. 1031, 1036 (2012) (noting that wind turbines have various environmental impacts but do not emit GHGs into the

turbines on land and offshore is well underway in the U.S.

Good siting practices can avoid habitat disturbances to terrestrial species. However, the primary challenge to wind turbines is impacts to migrating birds and bats. Regardless of choice on- or offshore, it is challenging to avoid impacts to migrating species. Bird and bat mortality can be substantial, particularly if turbines are placed in migratory corridors and if turbine speeds are not controlled during migrating seasons.⁷⁴ Secondary concerns include wildlife displacement and aesthetic impacts to pastoral landscapes.

Offshore wind energy implicates the further impacts to marine life including disruption of migratory pathways, acoustic impacts, and the uncertain impacts of a continuous electromagnetic field on sensitive marine species such as whales.⁷⁵

2. Overview of Regulatory Structure for Development

The process for development of wind resources varies depending on whether the project is located on federal, state, or private onshore lands or offshore. Offshore projects must avoid obstructing shipping lanes and obtain a rivers and harbors permit under Section 10 of the Rivers and Harbors Act.⁷⁶ A project developer must obtain a lease for the area to be occupied by the project either from state authorities if within three miles of the shore, or from the Bureau of Ocean Energy Management (“BOEM”), the federal agency responsible for leasing areas for energy development beyond three miles. If within three miles of the shore, a developer must comply with individual coastal state regulations. Obtaining these leases and permissions can implicate environmental issues. Moreover, if on public lands, any management or wildlife laws specific to those lands apply.

Generally speaking, all projects with a federal nexus would be subject to NEPA.⁷⁷ The ESA is also triggered when there is a federal

atmosphere).

74. Ana Teresa Marques et al., *Understanding Bird Collisions at Wind Farms: An Updated Review on the Causes and Possible Mitigation Strategies*, 179 *BIOLOGICAL CONSERVATION* 40, 44–45 (2014).

75. See Tabassum-Abbassi et al., *Wind Energy: Increasing Deployment, Rising Environmental Concerns*, 31 *RENEWABLE & SUSTAINABLE ENERGY REVIEWS* 270, 281–83 (2014) (discussing the environmental impacts of offshore wind farms).

76. The Army Corps of Engineers issues permits pursuant to the Rivers and Harbors Act of 1899. 33 U.S.C. § 403 (2012).

77. See 42 U.S.C. § 4332(2)(C) (2012) (requiring all federal government agencies to submit a report on the environmental impact of any proposed legislation or federal actions).

nexus and a listed species.⁷⁸ The National Historic Preservation Act (“NHPA”) might apply if any historic listed properties (or potential listed properties) are implicated, requiring consultation with state historic preservation agencies.⁷⁹ The Fish and Wildlife Coordination Act⁸⁰ is also applicable if on federal lands. If the project were located offshore, the Marine Mammals Protection Act⁸¹ would also apply.

As mentioned above, of primary concern with wind energy are avian species—both bats and birds. Thus, in addition to any species listed pursuant to the ESA, a proposed wind project might also trigger the Migratory Bird Treaty Act⁸² and the Bald and Golden Eagle Protection Act.⁸³ All require protocol to avoid harm, in some instances prohibiting any “take”—killing, harassment, or disturbing of individual members of the species prior to authorization. These impacts are significant and have spurred development of policies to improve siting decisions and minimize wildlife impacts.

3. Example and Explanation of “Rationing” Programs

In 2003, the Bureau of Land Management (“BLM”) began a program to maximize wind development on BLM lands where such projects would be technically and economically viable.⁸⁴ A key feature of the undertaking was to create policies or “best management practices” that would minimize environmental impacts.⁸⁵ Such policies included prohibiting development in environmentally sensitive areas, where resource impacts cannot not be mitigated, or when projects conflict with other land uses (or planned uses) that are not reconcilable.⁸⁶ BLM later clarified that the policy does not prohibit all wind project development in areas of critical environmental concern.⁸⁷

The “Smart from the Start” initiative was a proposal intended to

78. See 16 U.S.C. § 1536(c) (2012) (requiring all federal agencies to inquire about any listed species in an area affected by its proposed action).

79. National Historic Preservation Act, 16 U.S.C. § 470 (2012).

80. 16 U.S.C. § 661.

81. 16 U.S.C. §§ 1361–1407.

82. 16 U.S.C. §§ 703–712.

83. 16 U.S.C. §§ 668–668(c).

84. See U.S. DEP’T OF THE INTERIOR, BUREAU OF LAND MGMT., RECORD OF DECISION: THE IMPLEMENTATION OF A WIND ENERGY DEVELOPMENT PROGRAM AND ASSOCIATED LAND USE PLAN AMENDMENTS 1–2 (2005) [hereinafter DEP’T OF THE INTERIOR WIND ENERGY PROGRAM].

85. Lazerwitz & Bostick, *supra* note 68, at 11–4.

86. DEP’T OF THE INTERIOR WIND ENERGY PROGRAM, *supra* note 84, at 1–13.

87. BLM WIND ENERGY PROGRAM: POLICIES AND BEST MANAGEMENT PRACTICES, U.S. DEP’T OF THE INTERIOR, BUREAU OF LAND MGMT. 1-1 (2008) (noting that such areas will not be “universally excluded”).

facilitate development of commercial offshore wind in the Atlantic coast.⁸⁸ The potential for wind energy generation is high, but the Cape Wind example, where sustained litigation has stalled development in Nantucket Sound, was more than enough to highlight the extreme resistance facing commercial offshore wind development in areas within view of the shoreline.⁸⁹ The major downside to offshore wind is its cost in comparison to onshore wind and other forms of energy production. This led some to declare “Smart from the Smart” as being “Dead in the Water.”⁹⁰

Secretary of the Interior Salazar announced the “Smart from the Start” initiative to use public lands to increase wind power in appropriate locations. Much like BLM’s onshore program, this program was intended to eliminate sensitive and other resource-rich sites from the possibility of wind project development, while simultaneously creating a suite of appropriate sites for developers to pursue.

Although rapid development of offshore wind resources did not take off, the concept and name certainly did. Conceiving of the enterprise as one that would stave off bad projects by initially identifying appropriate places for the development is acceptable to both developers and the environmental community. The moniker “Smart from the Start” has been adopted by many initiatives to highlight proactive planning and siting sensitivity.⁹¹

4. Analysis of Controversy and Perceived Success

The progress in deploying wind energy is mixed, most notably facing challenges with avian species. The federal government has taken many

88. Press Release, U.S. Dep’t of the Interior, Salazar Launches ‘Smart from the Start’ Initiative to Speed Offshore Wind Energy Development Off the Atlantic Coast (Nov. 23, 2010), available at <http://www.doi.gov/news/pressreleases/Salazar-Launches-Smart-from-the-Start-Initiative-to-Speed-Offshore-Wind-Energy-Development-off-the-Atlantic-Coast.cfm#>; see Commercial Leasing for Wind Power on the Outer Continental Shelf (OCS) Offshore Massachusetts—Request for Interest (RFI), 75 Fed. Reg. 82,055 (Dec. 29, 2010) (stating that the RFI was the first step under the Smart from the Start initiative).

89. Erica Schroeder, Comment, *Turning Offshore Wind On*, 98 CALIF. L. REV. 1631, 1650 (2010) (describing that litigation has stalled the project for ten years).

90. Inst. for Energy Research, *Interior’s “Smart from the Start” is Likely “Dead in the Water.”* CAN. FREE PRESS (July 27, 2012), <http://canadafreepress.com/index.php/article/interiors-smart-from-the-start-is-likely-dead-in-the-water>.

91. E.g., Sharon Buccino, *Smart From the Start—Good Planning Promises Sustainable Energy Future*, 27 J. LAND USE & ENVTL. L. 369 *passim* (2012) (applying the term broadly to encompass programs such as increased efficiency, master leasing plans, renewable energy zones, and regional transmission planning); Ann Morgan, *Let’s Be “Smart From the Start” with Solar, Wind on Public Lands*, HUFF. POST (Oct. 30, 2013, 1:31 PM), <http://m.huffpost.com/us/entry/4175435> (applying the term to the development of renewable energy projects on public lands).

steps to try and address the tensions between facilitating development and conserving the environment and sensitive species. The ongoing development of policy related to bald eagles is a good example of the difficulty of meeting competing demands. In 2007, the bald eagle was delisted from the ESA.⁹² However, in turn the Fish and Wildlife Service (“FWS”) strengthened the Bald and Golden Eagle Protection Act by defining “disturb” within the statutory prohibition against “take” under the Act,⁹³ and then created a permitting system for incidental take that operates similarly to that of the ESA.⁹⁴ In an effort to boost wind power rollout, the FWS adopted a new rule that allows permits for unintentional take of bald and golden eagles to have a thirty-year term.⁹⁵ Environmental groups were critical, with one prominent conservation advocate comparing the thirty-year permit to “a blank check.”⁹⁶

Notably the environmental community is quite mixed about the rapid expansion of wind power. One commentator noted that “[t]hose who advocate reducing GHG emissions should unequivocally back the rapid expansion of and transition to these ‘green’ technologies, right? Wrong.”⁹⁷ Opponents have had success in delaying and ultimately

92. Endangered and Threatened Wildlife and Plants, Removing the Bald Eagle in the Lower 48 States From the List of Endangered and Threatened Wildlife, 72 Fed. Reg. 37,346 (July 9, 2007) (to be codified at 50 C.F.R. pt. 17).

93. 50 C.F.R. § 22.3 (2014). Pursuant to the regulations:

[D]isturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Id.

94. Eagle Permits; Take Necessary to Protect Interests in Particular Localities, 74 Fed. Reg. 46,836 (Sept. 11, 2009) (to be codified at 50 C.F.R. pts. 13, 22); see Brooke Wahlberg, *The Curious Problem of Eagles*, 44 TEX. ENVTL. L.J. 51, 60–61 (2014) (comparing the Bald and Golden Eagle Protection Act incidental take permitting process with that of ESA).

95. The original term of the programmatic take permit was five years. Eagle Permits; Take Necessary to Protect Interests in Particular Localities, 74 Fed. Reg. at 46,878. In 2012, the service proposed extending the period to thirty years. Eagle Permits; Changes in the Regulations Governing Eagle Permitting, 77 Fed. Reg. 22,267, 22,268 (Apr. 13, 2012) (to be codified at 50 C.F.R. pts. 13, 22). In the notice, the agency pointed to the need to extend the permit time frame to accommodate wind and solar renewable energy projects. *Id.* FWS has also provided guidance to the land-based wind energy industry. Migratory Birds, Eagle Conservation Plan Guidance: Module 1—Land-Based Wind Energy, Version 2, 78 Fed. Reg. 25, 758 (May 2, 2013). The objective of the guidance is to avoid and minimize impacts to eagles from all aspects of wind project siting, construction, and operation. *Id.*

96. Dan Frosch, *A Struggle to Balance Wind Energy With Wildlife*, N.Y. TIMES, Dec. 16, 2013, at A18 (quoting David Yarnold, president of the National Audubon Society).

97. Hadassah M. Reimer & Sandra A. Snodgrass, *Tortoises, Bats, and Birds, Oh My!*

derailing projects. Some have suggested efforts to engage the public to help manage the conflict and facilitate wind development.⁹⁸

Although the technology is well understood, aesthetics and beloved wildlife are truly difficult trade-offs for the public to bear. While BLM's pre-planning efforts were seen as useful to facilitate smart siting decisions, the long-term take permit acknowledged the trade-off of the mortality of bald eagles for several decades. A shorter term would have led to more uncertainty for the developer and "kicked the can down the road" so to speak. The decision to support wind energy in the face of eagle mortalities forced the public to grapple with the trade-off of more alternative energy but a loss of a national symbol and conservation success story. Much like Richard Pine chose to cannibalize his most precious belonging—his body—to survive, the decision is equally horrifying after years of attempting to bring back the species from extinction. Rationing environmental law will likely bring us face-to-face with these difficult trade-offs again, and thus must be viewed in the broader context of a concrete shift to a sustainable future.

B. Hydropower

This Subpart outlines the technology of hydropower and discusses its potential impact on the environment as well as how the installation of hydropower is regulated. The rationing program examined relates to small-scale exemptions from the typical licensing process. Hydropower is currently one of the largest sources of non-carbon energy.⁹⁹ Power from dams can put energy on the grid quickly at peak hours.¹⁰⁰ Thus, it would be a welcome compliment to alternative sources such as wind and solar, which are neither constant nor as predictable as dam releases and tides. However, given experience with highly disturbed and important river ecosystems, the likelihood of the U.S. expanding

Protected-Species Implications for Renewable Energy Projects, 46 IDAHO L. REV. 545, 546 (2010).

98. See, e.g., Sean F. Nolon, *Negotiating the Wind: A Framework to Engage Citizens in Siting Wind Turbines*, 12 CARDOZO J. CONFLICT RESOL. 327 (2011) (exploring the beneficial role that citizen engagement could play in creating wind energy plans).

99. The Energy Information Administration identifies hydropower as providing seven percent of the U.S. electricity generation in 2013, with other renewables at six percent, and nuclear power at nineteen percent. *Frequently Asked Questions: What is U.S. Electricity Generation by Energy Source?*, U.S. ENERGY INFO. ADMIN., <http://www.eia.gov/tools/faqs/faq.cfm?id=427&t=3> (last updated June 13, 2014). The World Energy Council estimates that approximately fifteen percent of global electricity comes from hydropower. WORLD ENERGY COUNCIL, WORLD ENERGY RESOURCES: 2013 SURVEY 17 (2013).

100. GEORGE CAMERON COGGINS ET AL., FEDERAL PUBLIC LAND AND RESOURCES LAW 554 (6th ed. 2007).

hydropower capacity greatly is unclear.

1. Technology and Environmental Impacts

Like wind power, generating energy from water has a long and checkered history in the U.S. “If water is located at any place higher than the level of the area towards which it seeks to flow, it has potential gravitational energy.”¹⁰¹ “From the dawn of recorded history, humans have experimented with ways to turn that potential energy into useful kinetic energy.”¹⁰²

It is hard to overestimate the massive changes we have made to river ecosystems in the U.S. “[V]irtually every river in the lower 48 states is now regulated by dams, locks, or diversions.”¹⁰³ Run of the river dams generate power by passing water through turbines. Sometimes small canals can be used to channel water through a turbine. Natural features of a river often provide sufficient head.¹⁰⁴ In other instances, dams are created to trap water in reservoirs and create a larger head, where a large volume can be dropped at controlled times. The U.S. is also considering increased pumped storage hydroelectric plants, where water is pumped back up to be dropped through turbines at peak hours.¹⁰⁵

Hydropower is a non-carbon form of energy. Some countries, such as Norway, generate much of their energy from hydroelectric projects.¹⁰⁶ Yet hydropower generates less than ten percent of the U.S.

101. FRED BOSSELMAN ET AL., ENERGY, ECONOMICS AND THE ENVIRONMENT: CASES AND MATERIALS 117 (3d ed. 2010). When water flows, it is motion (kinetic energy). U.S. DEP’T OF THE INTERIOR, BUREAU OF RECLAMATION, MANAGING WATER IN THE WEST: HYDROELECTRIC POWER (2005), available at <http://www.usbr.gov/power/edu/pamphlet.pdf>. The water passing over a turbine will move the blades (mechanical energy), which turns the generator rotor converting it to electricity. *Id.* A primer on hydropower describing the process in more detail, and the use of hydropower in the U.S. is provided by the U.S. Department of the Interior, Bureau of Reclamation, Power Resources Office. *Id.*

102. BOSSELMAN ET AL., *supra* note 101, at 117.

103. MICHAEL COLLIER, ROBERT H. WEBB & JOHN C. SCHMIDT, DAMS AND RIVERS: A PRIMER ON THE DOWNSTREAM EFFECTS OF DAMS 1 (1996).

104. Head is the distance between the top of the waterfall and the surface water below. According to the U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy Glossary of Hydropower Terms, “head” is “[v]ertical change in elevation, expressed in feet or meters, between the head (reservoir) water level and the tailwater (downstream) level.” *Glossary of Hydropower Terms*, OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY, <http://energy.gov/eere/water/glossary-hydropower-terms> (last visited Mar. 29, 2015).

105. *See generally* DOUGLAS G. HALL & RANDY D. LEE, ASSESSMENT OF OPPORTUNITIES FOR NEW UNITED STATES PUMPED STORAGE HYDROELECTRIC PLANTS USING EXISTING WATER FEATURES AS AUXILIARY RESERVOIRS (2014) (discussing how pumped storage hydroelectric plants function and possible locations for such plants).

106. JAMES H. MCGREW, FEDERAL ENERGY REGULATORY COMMISSION 217 (2d ed. 2009).

energy portfolio.¹⁰⁷ Though it generates no GHGs, and does not consume any fuel in the electricity generation process itself,¹⁰⁸ the use of water for energy can have severe impacts on river ecosystems.¹⁰⁹ Dams impede fish migration, add pollutants such as heat, and change flow regimes having severe impacts on aquatic species.¹¹⁰ Sediment and nutrient migration is also impacted with severe consequences for fish and wildlife.¹¹¹ Serious ecosystem degradation on important river systems such as the Colorado has led to investment in restoration that is likely to last for many years.¹¹² Thus, although the Colorado River's "artificial plumbing system" contributes both water and electricity to seven U.S. states and Mexico, the trade-off in ecosystem degradation for this progress has been harsh.¹¹³ Thus, decommissioning and dam removal have become one proposed component of river ecosystem restoration.¹¹⁴

2. Overview of Regulatory Structure for Development

The Federal Power Act ("FPA") gives exclusive authority to the Federal Energy Regulatory Commission ("FERC") to license non-federal hydropower projects located on federal lands, in navigable waters, or connected to the interstate electric grid.¹¹⁵ There are multiple routes to licensing, including integrated licensing, traditional licensing, and an alternative licensing process.¹¹⁶ Typically licenses are issued for

107. *Id.* (stating that hydropower only accounted for six to seven percent of U.S. energy in 2009).

108. *Id.*

109. See David D. Hart & N. Leroy Poff, *A Special Section on Dam Removal and River Restoration*, 52 *BIOSCIENCE* 653 (2002) (calling for dam removal in order to restore river ecosystems); Franklin K. Ligon et al., *Downstream Ecological Effects of Dams*, 45 *BIOSCIENCE* 183 (1995) (discussing the "cataclysmic effect" that dams have on the river's ecological processes).

110. Stuart E. Bunn & Angela H. Arthington, *Basic Principles and Ecological Consequences of Altered Flow Regimes for Aquatic Biodiversity*, 30 *ENVTL. MGMT.* 492, 498–99 (2002).

111. Ligon et al., *supra* note 109, at 188–89.

112. ROBERT W. ADLER, *RESTORING COLORADO RIVER ECOSYSTEMS: A TROUBLED SENSE OF IMMENSITY* 4–5 (2007).

113. *Id.* at 5. The author also discusses debates over proposals to decommission the Glen Canyon Dam. *Id.* at 237–40. Notably, the dam produces 5000 gigawatts per hour per year and, as with other dams, does not produce GHG emissions or other pollutants and can be used during peak energy use hours, reducing costs to consumers. *Id.* at 239.

114. COGGINS ET AL., *supra* note 100, at 554; Hart & Poff, *supra* note 109, at 654.

115. Federal Power Act, 16 U.S.C. §§ 791(a)–825 (2012). FERC does not have responsibility for regulating federal dams operated by agencies such as the Department of Interior, Army Corps of Engineers, and the Tennessee Valley Authority. MCGREW, *supra* note 106, at 218.

116. *E.g.*, FED. ENERGY REGULATORY REG. COMM'N, *HANDBOOK FOR HYDROELECTRIC PROJECT LICENSING AND 5 EXEMPTIONS FROM LICENSING* 2–3 (2004) [hereinafter FERC

fifty years, and upon reaching the expiration date, FERC will conduct re-licensing.

The licensing process itself requires evaluation of environmental impacts and a public interest test pursuant to the FPA. Moreover, if any endangered species are implicated by the project, FERC is also required to consult with the FWS pursuant to section 7 of the ESA.¹¹⁷ If the project may affect national historic properties the NHPA requires notification and consultation.¹¹⁸ “Environmental reviews of hydroelectric projects can be complex and hotly disputed.”¹¹⁹

3. Example and Explanation of “Rationing” Program

FERC adopted a program to expedite hydropower projects with five megawatt (“MW”) capacity or less.¹²⁰ The exemption is available if an applicant proposes to install or add capacity to a non-federal, pre-1977 dam, or at a natural water feature.¹²¹ The exemption allows an applicant to avoid the lengthy licensing process, although to obtain the exemption from licensing an environmental assessment (“EA”) procedure is conducted. The handbook available for applicants emphasizes that an exemption from licensing is an exemption from Part I of the FPA.¹²² This type of rationing program rests on the assumption that small hydroprojects will have minimal environmental impact.

4. Feedback on the Controversy and Perceived Success

The likelihood of expanded dam construction is low, given the poor state of river ecosystems damaged by hydropower. Only minor increase of capacity is likely, and although the small project exemption was not met with significant resistance, it also seems unlikely to generate many new projects. If the recent bills on RPS are any indication, however, hydropower will continue to be a major player in the overall picture of renewable energy growth. Some states are considering including existing large-scale hydropower as eligible sources, while others sought

HANDBOOK 2004] (providing a step-by-step guide for licensing for parties involved in the hydropower authorization process).

117. 16 U.S.C. § 1536 (2012).

118. National Historic Preservation Act, 16 U.S.C. § 470. Section 106 of the Act contains consultation requirements. The section 106 regulations, 36 C.F.R. § 800 (2014), do not require a particular outcome, but a specific process. *Id.*

119. MCGREW, *supra* note 106, at 222.

120. *See* FERC HANDBOOK 2004, *supra* note 116, at 6-2 (setting out exemptions for hydroelectric projects of five MW or less).

121. 18 C.F.R. § 4.31(c)(2) (2014).

122. FERC HANDBOOK 2004, *supra* note 116, at 6-1 (citing 16 U.S.C. §§ 823A, 2705, 2708).

to add run-of-the-river projects as eligible for inclusion in the RPS calculations.¹²³

C. Solar Power

This Subpart outlines the technology of solar power, discusses its potential impact on the environment, and addresses how the installation of solar power is regulated. The rationing program examined relates to preferential treatment under planning laws. Solar power has been in use in the U.S. for many decades, but is getting cheaper and thus more competitive.¹²⁴ The weakness of solar power is its intermittent availability. The sun must be shining to generate solar power, and the most robust areas to capture the sunlight are thus in desert areas, where we have seen much interest and controversy.

1. Technology and Environmental Impacts

Solar power is a non-carbon source of energy, and solar projects may seem like a natural fit for the deserts and sunny weather of the western U.S. But such large-scale solar projects are under attack for their capacity to take up far more land than rooftop solar projects.¹²⁵ Furthermore, solar projects pose impacts to sensitive species, both in terms of direct impacts and displacement from habitat.¹²⁶ Depending on the technology, some large-scale solar utility projects consume significant water resources.¹²⁷ As one expert has put it: “[R]enewable energy projects often pit ‘green’ against ‘green’—reduction of GHG emissions versus protecting local landscapes and wildlife.”¹²⁸

123. See STATE RPS HOLD STEADY, *supra* note 46, at 3, 6 (noting Connecticut’s effort with run-of-the-river projects and the nine state bills that would have added large hydroelectric generation).

124. ANNUAL ENERGY OUTLOOK 2014, *supra* note 46, at ES-4 (noting that wind and solar have become cheaper).

125. See Uma Outka, *The Renewable Energy Footprint*, 30 STAN. ENVTL. L.J. 241, 244 (2011) (hesitating to concede the loss of vast quantities of land as an inevitable trade-off for renewable power).

126. See Sarah Pizzo, Comment, *When Saving the Environment Hurts the Environment: Balancing Solar Energy Development With Land and Wildlife Conservation in a Warming Climate*, 22 COLO. J. INT’L ENVTL. L. & POL’Y 123, 134–39 (2011) (examining impacts on wildlife, water resources, and other environmental amenities).

127. Robert Glennon & Andrew M. Reeves, *Solar Energy’s Cloudy Future*, 1 ARIZ. J. ENVTL. L. & POL’Y 91, 96–103 (2010) (examining water use for various solar technologies and comparing to other types of energy generation). The authors explain why concentrated solar consumes water resources, although photovoltaic technology such as rooftop solar panels use very little. *Id.*

128. Reimer & Snodgrass, *supra* note 97, at 546.

2. Overview of Regulatory Structure for Development

The government agencies involved in authorizing construction of a solar project will depend on whether the project is on federal lands. The Department of Interior (“DOI”) has jurisdiction over a significant swath of public lands from which project proponents would like to generate solar energy. Within the DOI is the BLM, which is responsible for public lands in the southwestern U.S. where multiple large-scale solar projects have been proposed.

NEPA requires that federal agencies take a “hard look” at actions that may have a significant impact on the environment.¹²⁹ Thus, any project with a federal approval or on federal land will require NEPA compliance with the environmental impact assessment process. The assessment must contain a description of the project, assessment of a “no action” alternative, and evaluation of other reasonable alternatives.¹³⁰ The procedural requirements of an EA can greatly assist in the evaluation of tradeoffs of particular projects.¹³¹ However, the statute does not require that agencies choose the most environmentally friendly version of a project or mitigate significant environmental impacts. On the whole, NEPA’s requirements produce transparency and engage the public with disclosure and solicited comments; however, the requirements increase the time necessary to get a project from start to finish and the cost of compliance.¹³²

The ESA is the most important wildlife protection statute in the federal arsenal.¹³³ It prohibits the taking of listed species by any person.¹³⁴ “Take” is defined broadly, including not only killing, but also harassing, and through regulations, harm to species by habitat modification or degradation where it actually kills or injures wildlife.¹³⁵

129. National Environmental Policy Act, 42 U.S.C. § 4321 (2012); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989).

130. 42 U.S.C. § 4332(2)(C); Environmental Impact Statement, 40 C.F.R. § 1502.14 (2014). The “no action” alternative can be found in subsection (d). 40 C.F.R. § 1502.14.

131. CEQ regulations require that the reasonable alternatives of proposals be presented in comparative form, “thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. § 1502.14.

132. See generally Trevor Salter, *NEPA and Renewable Energy: Realizing the Most Environmental Benefit in the Quickest Time*, 34 ENVIRONS ENVTL. L. & POL’Y J. 173 (2011) (discussing the length of the NEPA process and arguing for an accelerated mechanism for qualified projects).

133. See generally Endangered Species Act, 16 U.S.C. § 1531 (2012) (protecting endangered species from extinction).

134. *Id.* § 1538.

135. 50 C.F.R. § 17.3 (2014); see *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 U.S. 687, 699–700 (1995) (rejecting challenge to the ESA). The regulation states that an act

Yet the prohibition applies only to species that are listed by the FWS as facing potential extinction. If a project is on federal lands or has a federal nexus, then section 7 of the ESA requires the FWS to consult on the issuance of a permit or authorization by the federal agency involved.¹³⁶ The FWS must find that there is no jeopardy to the species, or that with certain stated actions jeopardy would be avoided.¹³⁷ Where the project is not on federal lands and has no federal nexus, section 10 requirements apply.¹³⁸ The project applicant can submit a habitat conservation plan to obtain immunity from liability for any unintentional take to the species.¹³⁹

3. Example and Explanation of “Rationing” Program

In 2008, BLM and the Department of Energy (“DOE”) embarked on a programmatic environmental impact study (“PEIS”) to identify suitable areas for large-scale solar development in a six-state study area.¹⁴⁰ Recognizing the tension between large-scale project efficiencies and natural habitat degradation within the six-state study area of Arizona, California, Colorado, New Mexico, Nevada, and Utah, the areas deemed “environmentally sensitive” were excluded from consideration in the BLM/DOE PEIS.¹⁴¹ The Final Solar PEIS identified seventeen solar energy zones (“SEZ”).¹⁴² These are priority areas for development of utility-scale solar energy facilities.¹⁴³

The agencies then applied preference to such SEZ projects within the NEPA framework. On one hand, critics insisted on full analysis of any

of harm “may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.” 50 C.F.R. § 17.3. In *Babbitt*, a majority of the Supreme Court upheld the regulation and assumed normal requirements of proximate cause apply to the liability of persons charged with a section 9 violation. *Babbitt*, 515 U.S. at 735.

136. 16 U.S.C. § 1536.

137. See 50 C.F.R. § 402.14(h)(3) (containing consultation regulations for biological opinions).

138. 16 U.S.C. § 1539.

139. *Id.* § 1539(a)(1)(B).

140. Notice of Intent to Prepare a Programmatic Environmental Impact Statement to Evaluate Solar Energy Development, Develop and Implement Agency-Specific Programs, Conduct Public Scoping Meetings, Amend Relevant Agency Land Use Plans, and Provide Notice of Proposed Planning Criteria, 73 Fed. Reg. 30908 (May 29, 2008) [hereinafter Notice of Intent].

141. *Id.* at 30910.

142. U.S. DEP’T OF THE INTERIOR, BUREAU OF LAND MGMT., RECORD OF DECISION: THE FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR SOLAR ENERGY DEVELOPMENT IN SIX SOUTHWESTERN STATES, at ES-11 (2012) [hereinafter ROD SOLAR PEIS].

143. *Id.* at ES-2.

SEZ proposal on a project-by-project basis.¹⁴⁴ The final Record of Decision (“ROD”) on the Solar PEIS made clear that it did not authorize any particular solar energy project, and each would need its own specific environmental impact assessment pursuant to NEPA.¹⁴⁵ However, having a larger framework in place did facilitate development siting and investment. The existing NEPA documentation generated by the PEIS could be used to fulfill part of the analysis required in individual site-specific approvals.¹⁴⁶ By excluding areas that might have sensitive biological resources, the land-use pre-planning helped pave the way for projects in areas that would be less destructive to wildlife, and reduced time to project construction in some instances by allowing the use of pre-existing NEPA documentation.

4. Feedback on the Controversy and Perceived Success

Impacts from large-scale solar projects are not well understood. For example, the Ivanpah solar electric generating project had far more bird deaths reported during its construction and testing phase than originally anticipated.¹⁴⁷ The technology directs garage-door size panels at tall towers that heat up water to run turbines.¹⁴⁸ The temperature near the towers exceeds 1000 degrees.¹⁴⁹ Dead birds found during the construction phase appeared to have singed feathers, indicating possible harm from the heat centers.¹⁵⁰ Although it was understood that the

144. Notice of Intent, *supra* note 140 (confirming that a future project-specific NEPA analysis would be required but made more efficient because of the PEIS). As the final EIS executive summary notes, an important aspect of the program was in-depth data collection and environmental analysis to help facilitate future project-specific NEPA analysis. ROD SOLAR PEIS, *supra* note 142, at ES-4. “The primary purpose of this more rigorous SEZ-specific analysis is to provide documentation from which the BLM can tier future project authorizations, thereby limiting the required scope and effort of project-specific NEPA analysis.” *Id.*

145. See ROD SOLAR PEIS, *supra* note 142, at ES-4 (setting out the requirements for “Applications for Solar Energy Development on BLM Lands”).

146. *Id.*

147. Cassandra Sweet, *The \$2.2 Billion Bird-Scorching Solar Project*, WALL ST. J. (Feb. 12, 2014, 8:17 PM), <http://online.wsj.com/articles/SB10001424052702304703804579379230641329484>. This concentrating solar power project is located near Nipon, California, in the California Mojave Desert approximately forty miles southwest of Las Vegas. Thomas W. Overton, *Plant of the Year: Ivanpah Solar Electric Generating System Earns POWER’s Highest Honor*, POWER MAG. (Aug. 1, 2014), <http://www.powermag.com/ivanpah-solar-electric-generating-system-earns-powers-highest-honor/>. It is the largest of its kind in the U.S., spanning nearly five miles with a capacity of 392 MW. *Id.* Three power towers, 459 feet in height, collect heat from mirrors directing sunlight toward them, where boilers then direct steam into a turbine generator. *Id.*

148. Sweet, *supra* note 147.

149. *Id.*

150. *Id.*

technology had the potential to harm birds, as a new technology, the extent of its impact was unknown. A two-year study is now underway to track bird mortalities.¹⁵¹

Solar energy is a demonstrated technology, but moving beyond rooftop to large-scale generation still faces resistance.¹⁵² Advocates of small-scale, distributed generation see large projects as a step in the wrong direction. As this example demonstrates, the southwestern U.S. contains significant solar energy resources that may be used to increase the portfolio of non-hydro renewable energy in the U.S., but progress moves slowly. The fight continues over large-scale desert solar projects, engaging legislative, administrative, and judicial branches of the government. The example of the BLM solar initiative demonstrates the potential for pre-planning efforts to expedite progress without compromising environmental values.

D. Hydrokinetic

This Subpart outlines the technology of hydrokinetic power—which relates to both wave and tidal energy. This Subpart discusses the potential impact on the environment and how the installation of hydrokinetic power is regulated. The rationing program examined relates to experimental permitting. Hydrokinetic wave power is still in demonstration stages, while tidal technologies are better proven. Hydrokinetic power could be the most benign source of energy generation, but it still must avoid impacts on important marine resources and conflicts with current and future marine users.

1. Technology and Potential Environmental Impacts

The technology of tidal power is quite similar to inserting a wind turbine into the water. Tidal power is a well-demonstrated technology with a steady and predictable source of energy: tides. Roosevelt Island Tidal Energy project (“RITE”) in the east channel of New York’s east river demonstrates the potential of this energy source. FERC issued a Pilot license for the RITE project in January 2012.¹⁵³

On the other hand, wave technology is still in the research, development, and deployment stages (“RD&D”). While great potential exists in the power of the waves, no market leaders have emerged to garner significant investment. However, given the mechanics of these

151. *Id.*

152. Glennon & Reeves, *supra* note 127, at 116–23.

153. 138 FERC § 62,049 (2012).

devices, wave power has the potential to be the least impactful on the environment.

The impact on the environment could include marine mammal disturbances such as noise and obstruction to migration patterns, such as for Grey Whales in the Pacific Ocean.¹⁵⁴ The devices could act as artificial reefs, potentially aggregating fish in new areas and increasing predation.¹⁵⁵ There is also the unknown impact of a constant electromagnetic field.¹⁵⁶

2. Overview of Regulatory Structure for Development

As is the case for hydropower generally, hydrokinetic projects produce energy from water, and thus the FERC asserted regulatory authority of hydrokinetic projects in offshore waters. As previously noted, the FPA gives exclusive authority to the FERC to license non-federal hydropower projects located on federal lands, in navigable waters, or connected to the interstate electric grid.¹⁵⁷ FERC asserted that wave energy projects were hydropower projects subject to its jurisdiction pursuant to the FPA.¹⁵⁸ This created a regulatory overlap with the Minerals Management Service (“MMS”), which regulates projects in federal waters offshore. In a compromise, the agencies (MMS is now the BOEM) entered into a MOU that requires a FERC license, but a lease for the use of federal waters must be obtained from BOEM if the project is proposed for federal waters beyond three miles of the shore.

Multiple laws protecting wildlife are applicable. These include the Fish and Wildlife Coordination Act,¹⁵⁹ the ESA,¹⁶⁰ and the Marine Mammals Protection Act.¹⁶¹ Moreover, the NHPA applies, requiring consultation with state historic preservation agencies,¹⁶² and in some

154. Rachael E. Salcido, *Rough Seas Ahead: Confronting Challenges to Jump-Start Wave Energy*, 39 ENVTL. L. 1073, 1098 (2009).

155. *Id.* at 1097–98. *But cf.* Rachael E. Salcido, *Enduring Optimism: Examining the Rig-to-Reef Bargain*, 32 ECOLOGY L.Q. 863, 888–93 (2005) (discussing the uncertainties of artificial reefs).

156. Salcido, *supra* note 154, at 1098.

157. 16 U.S.C. §§ 791(a)–825 (2012).

158. AquaEnergy Grp., LTD, D102-3-001, 102 FERC ¶ 61,242 (Order Denying Rehearing) (Feb. 28, 2003).

159. 16 U.S.C. § 661.

160. 16 U.S.C. § 1531.

161. 16 U.S.C. §§ 1361–1407.

162. 16 U.S.C. § 470.

instances the CWA may be triggered.¹⁶³

3. Example and Explanation of “Rationing” Program

Much like offshore wind projects, offshore tidal and wave energy projects have suffered from a confusing jurisdictional maze. FERC has a complex licensing process that it uses for traditional hydroelectric projects.¹⁶⁴ FERC asserted jurisdiction over offshore hydrokinetic energy projects and has sought to tailor the license process to tidal and wave energy, which were in need of technology development and demonstration.¹⁶⁵

In the hope of expediting the availability of this energy source to green the grid, FERC adopted a pilot project license. FERC’s pilot project licensing allows for RD&D without the rigors of a full license application. In its April 2008 white paper, FERC explained why these projects would pose little risk to the environment or public safety, and that its purpose was to encourage commercial development of the technology.¹⁶⁶ However, the license could not be transferred and would terminate at the end of the demonstration term.

Both within and outside the U.S., the unknown impacts of marine renewable projects pose serious constraints on development and deployment. One reason is the extremely complex suite of laws confronted by new proposals.¹⁶⁷ For example, New Zealand has also had a challenge scaling up marine renewable energy projects. As one source explains, “blue tape” is to blame:

[D]evelopers in both countries have faced, and continue to face, complex regulatory frameworks with multi-year timeframes for commercial-scale development. As such, it appears both countries have room to make meaningful changes to their regulatory regimes that could reduce a major obstacle to marine renewable energy

163. 33 U.S.C. §§ 1251–1387 (2012) (explaining the requirements of a discharge permit if a technology is construed as “discharging” water).

164. The default licensing process is FERC’s “Integrated Licensing Process.” Federal Energy Regulatory Commission, Hydroelectric Licensing Under the Federal Power Act, 104 FERC ¶ 61,109 (July 23, 2003), 68 Fed. Reg. 51,069 (Aug. 25, 2003). Commission approval is required to use the Traditional Licensing Process, 18 C.F.R. § 4.38 for original licenses and 18 C.F.R. § 16.8 for relicensing, or the Alternative Licensing Process, 18 C.F.R. § 4.34(i). For a further discussion of FERC’s hydroelectric regulation, see MCGREW, *supra* note 106, at 217–25.

165. FED. ENERGY REGULATORY COMM’N, LICENSING HYDROKINETIC PILOT PROJECTS 3 (2008) (noting that there are barriers to the development of hydrokinetic, including financial issues and unproven technologies).

166. *Id.* at 4, 8–9.

167. Rachael E. Salcido, *Siting Offshore Hydrokinetic Energy Projects: A Comparative Look at Wave Energy Regulation in the Pacific Northwest*, 5 GOLDEN. GATE U. ENV. L.J. 109 (2011).

development. Part of the change could be a shift in what appears to be institutional risk aversion, which marine renewable energy developers face, due to bureaucratic unfamiliarity with marine energy projects and their environmental effects. Whereas offshore oil development in the United States can secure permits in less than one year, marine renewable developers experience much longer timeframes although the greatest risk renewable development represents pales in comparison to that of offshore oil drilling platforms.¹⁶⁸

Given the comparative value of increasing non-carbon sources of energy, the U.S. should be actively reducing regulatory barriers.¹⁶⁹

4. Feedback on the Controversy and Perceived Success

Experimental permitting would seem to be a good strategy given the state of technical knowledge and understanding regarding limited environmental impacts. However, few choose to pursue the experimental pilot licenses. Technical feasibility, concerns over shoreline visual impacts (industrialization of the oceans), and risk aversion to unknown impacts on wildlife continue to pose roadblocks to the expansion of hydrokinetic wave energy. Perhaps if FERC permitted a preference in future project siting at the same location, the experimental permit would be more attractive to developers.

III. RATIONING AND REWORKING LAW BEYOND ALTERNATIVE ENERGY

Although this Article focuses on the efforts to ration environmental laws to promote alternative energy, other rationing measures designed to address GHG emissions and to mitigate climate change impacts demonstrate the feasibility of this approach. Though extremely controversial, actions by the EPA under the CAA and the Forest Service under the Healthy Forest Restoration Act (“HFRA”) illustrate two concrete examples worth further examination.

A. Clean Air Act Example

Outside the renewable energy context, the EPA’s efforts to adapt the CAA fit the overall rationing paradigm. The EPA implements the CAA, which is primarily a health-based law.¹⁷⁰ The EPA analyzes whether emissions endanger the public and regulates air emissions in a

168. Boisvert, *supra* note 58, at 136.

169. *Id.* One suggestion from Ian Boisvert is to create a consolidated process for obtaining a commercial-scale marine renewable energy development permit. *Id.*

170. 42 U.S.C. §§ 7401–7671 (2012).

variety of ways. Among its provisions, the CAA authorizes the EPA to regulate stationary sources, mobile sources (motor vehicles), and fuels.¹⁷¹ Indeed, the CAA has been compared to the Internal Revenue Code in terms of its complexity.¹⁷² As one expert has noted, “[b]ecause the Clean Air Act is a complex statute, the EPA often appears to have several options when it decides to regulate air pollutants.”¹⁷³

In 1999, the International Center for Technology Assessment and others petitioned the EPA to reduce GHG emissions from motor vehicles pursuant to the EPA’s authority under CAA section 202(a)(1).¹⁷⁴ In *Massachusetts v. EPA*, the Supreme Court determined that once the EPA made an endangerment finding it could not shirk its responsibility to regulate carbon emissions from new motor vehicles.¹⁷⁵ The case was remanded, and the EPA ultimately issued its finding in 2009.¹⁷⁶ The EPA subsequently promulgated standards for emissions from new motor vehicles and is in the process of fine-tuning those regulations.¹⁷⁷

The EPA then moved forward to regulate stationary sources, taking the position that the Prevention of Significant Deterioration (“PSD”) and Title V permitting requirements were triggered by its regulation of motor vehicles.¹⁷⁸ Industry groups and others moved to prevent such

171. See 43 U.S.C. §§ 7411, 7470–7492, 7501–7515 (2012) (stationary sources); *id.* §§ 7521–7590 (mobile sources); *id.* § 7545 (fuels).

172. ROBIN CRAIG, ENVIRONMENTAL LAW IN CONTEXT 513 (3d ed. 2012).

173. *Id.* at 515.

174. For a concise history of the CAA and its role in Climate Mitigation leading up to *Massachusetts v. EPA*, see Jonathan S. Martel & Kerri L. Stelcen, *Clean Air Regulation*, in GLOBAL CLIMATE CHANGE AND U.S. LAW 133, 133–82 (Michael B. Gerrard & Jody Freeman, eds., 2d ed. 2007).

175. 549 U.S. 497 (2007). The Court stated, “If EPA makes a finding of endangerment, the Clean Air Act requires the agency to regulate emissions of the deleterious pollutant from new motor vehicles.” *Id.* at 533.

176. Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496, 66,499 (Dec. 15, 2009).

177. 40 C.F.R. §§ 85, 86, 600 (2014); *e.g.*, OFFICE OF TRANSP. & AIR QUALITY, EPA ISSUES AMENDMENTS TO THE HEAVY-DUTY HIGHWAY GREENHOUSE GAS RULE AND OTHER NONROAD PROVISIONS 1 (2013), available at <http://www.epa.gov/otaq/climate/documents/420f13001.pdf> (amending previous EPA regulations to address additional mobile GHGs and to better align testing procedures with the market demands); see OFFICE OF TRANSP. & AIR QUALITY, EPA AND NHTSA FINALIZE HISTORIC NATIONAL PROGRAM TO REDUCE GREENHOUSE GASES AND IMPROVE FUEL ECONOMY FOR CARS AND TRUCKS 2–8 (2010), available at <http://www.epa.gov/otaq/climate/regulations/420f10014.pdf> (stating and advocating for the new EPA standards for GHG emissions for motor vehicles).

178. Advance Notice of Proposed Rulemaking, Regulating Greenhouse Gas Emissions Under the Clean Air Act, 73 Fed. Reg. 44354, 44420, 44498, 44511 (July 30, 2008).

regulation.¹⁷⁹

The Supreme Court accepted six petitions for review of the lower court rulings on the challenges to the EPA's actions, but the Court focused on the single question of whether the EPA's regulation of GHG emissions from motor vehicles triggered stationary-source GHG permitting requirements.¹⁸⁰ The Supreme Court determined in *Utility Air Regulatory Group v. EPA* that the EPA could regulate GHGs from sources that already required a permit, although it limited the EPA's authority to regulate GHGs from sources otherwise.¹⁸¹

Pursuant to the CAA, the EPA must regulate sources that pollute 100 or 250 tons of emissions per year.¹⁸² The CAA itself identified the numerical threshold. This low threshold, while workable for traditional pollutants, sweeps in very small sources when applied to carbon dioxide.¹⁸³ The EPA sought to draw a line between large sources of pollution and small entities, such as high schools, for example.¹⁸⁴ The EPA identified 75,000 to 100,000 tons per year as an appropriate threshold.¹⁸⁵ In doing so, the EPA would target major sources of carbon dioxide.¹⁸⁶ The move would have been administratively easier to implement and allowed traditionally unregulated facilities to avoid CAA regulation.

The Supreme Court in *Utility Air Regulatory Group* found this "tailoring" unsupported by the plain statutory language.¹⁸⁷ Justice Scalia, writing for the court, disagreed that the regulation of GHG emissions from new motor vehicles automatically triggered the PSD and Title V provisions.¹⁸⁸ In particular, even if the EPA had the ability to interpret the statute in that way, the EPA violated the clear statutory thresholds in violation of Separation of Powers principles.¹⁸⁹ As many predicted, the Court found the potential regulation incompatible with

179. *Coalition for Responsible Regulation, Inc. v. E.P.A.*, 684 F.3d 102 (D.C. Cir. 2012).

180. The petitions for review that were granted and ruled upon in *Utility Air Regulatory Grp. v. E.P.A.* included: *Utility Air Regulatory Grp. v. E.P.A.*, No. 12-1146; *Am. Chemistry Council v. E.P.A.*, No. 12-1248; *Energy-Intensive Mfrs. Working Grp. on Greenhouse Gas Regulation v. E.P.A.*, No. 12-1254; *Se. Legal Found., Inc. et al. v. E.P.A.*, No. 12-1268; *Texas v. E.P.A.*, No. 12-1269; *Chamber of Commerce of United States v. E.P.A.*, 12-1272.

181. 134 S. Ct. 2427, 2431–33 (2014).

182. 42 U.S.C. §§ 7479(1), 7661(2)(B), 7602(j) (2012).

183. *Utility Air Regulatory Grp.*, 134 S. Ct. at 2436.

184. *Id.* at 2437.

185. *Id.*

186. *Id.*

187. *Id.*

188. *Id.* at 2442.

189. *Id.* at 2446.

Congress' regulatory scheme.¹⁹⁰ However, the EPA could interpret the CAA to allow the EPA to regulate GHGs from sources otherwise subject to the PSD requirements, imposing the "best available control technology" requirement for GHG.¹⁹¹

It remains to be seen what the EPA will choose to do in light of pressure from both industry and environmentalists on the issue of GHG emissions from stationary and mobile sources. Commentators predict continued litigation over the PSD program and the EPA's rules on regulation of power plans pursuant to section 111 of the CAA.¹⁹² However, the developments to date indicate that the EPA is willing to use some parts of the CAA where it can, with or without the ability to use all of the tools in its arsenal. The EPA's activity supports the premise that curtailment of the full suite of potentially applicable environmental law may support the goals of climate change mitigation.

B. *Healthy Forest Restoration Act Example*

Wildfires are becoming a more serious problem due to higher temperatures, drier conditions, and poorer health of various forests. In the U.S., the wildfire problem is compounded by a tremendous growth in the Wildland Urban Interface ("WUI").¹⁹³ Thus, not only are wildfires increasing, but also the number of people who are in harm's way has exploded as suburbs and exurbs have been established within and on the outskirts of forested land in the U.S.¹⁹⁴

Following multiple consecutive wildfire seasons, Congress adopted

190. *Id.* at 2442.

We need not, and do not, pass on the validity of all the limiting constructions EPA has given the term "air pollutant" throughout the Act. We merely observe that taken together, they belie EPA's rigid insistence that when interpreting the PSD and Title V permitting requirements it is bound by the Act-wide definition's inclusion of greenhouse gases, no matter how incompatible that inclusion is with those programs' regulatory structure.

Id. The court went on to conclude that, "[l]ike EPA, we think it beyond reasonable debate that requiring permits for sources based solely on their emissions of greenhouse gases at the 100- and 250-tons-per-year levels set forth in the statute would be 'incompatible' with 'the substance of Congress' regulatory scheme.'" *Id.* at 2443 (citing *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 156 (2000)).

191. *Id.* at 2447.

192. Philip A. Wallach, *A Realistic Timetable for Greenhouse Gas Regulation Under the Clean Air Act*, BLOOMBERG BNA (Aug. 16, 2013), <http://www.bna.com/a-realistic-timetable-for-greenhouse-gas-regulation-under-the-clean-air-act/> (anticipating the likelihood that litigation will delay any GHG rules).

193. Jamison Colburn, *The Fire Next Time: Land Use Planning in the Wildland/Urban Interface*, 28 J. LAND RESOURCES & ENVTL. L. 223, 231 (2008).

194. *Id.* at 234.

the HFRA.¹⁹⁵ Among its provisions, the HFRA allows priority funding to thin forests near communities when a Community Wildfire Protection Plan has been adopted.¹⁹⁶ These Plans are joint efforts of the community and various first responders, as well as the forest service, fire departments, etc.¹⁹⁷ The plans must include certain elements to be approved, but they primarily emphasize the individual community responsibility to reduce the risk of harm from wildfire (planning out feasible escape routes, creating defensible space, etc.).¹⁹⁸

HFRA rationed NEPA's application to fuel-reduction projects in the WUI. Typically, an agency must analyze not only the proposed action, but also a range of alternatives to the proposed action, including a "no action" alternative. The alternatives analysis is often said to be the heart of the Environmental Impact Statement ("EIS").¹⁹⁹ Pursuant to the provisions of HFRA, the Forest Service can analyze the proposed action and only one other alternative if the project is to be conducted in the WUI:

(1) Proposed agency action and 1 action alternative

For an authorized hazardous fuel reduction project that is proposed to be conducted in the wildland-urban interface, the Secretary is not required to study, develop, or describe more than the proposed agency action and 1 action alternative in the environmental assessment or environmental impact statement prepared pursuant to section 102(2) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)).²⁰⁰

Moreover, if the proposed project is very close to a community—within one and a half miles—the agency may not need to analyze any other alternative.²⁰¹

195. Healthy Forests Restoration Act of 2003, 16 U.S.C. §§ 6501–6591 (2012).

196. Rachael E. Salcido, *The Tension Between Transparency and Public Appeasement in the Formulation of Wildfire Management Strategies and the use of Wildfire as a Restoration Tool*, 1 TEX. WESLEYAN J. REAL PROP. L. 69, 73–74 (2012).

197. *Id.*

198. *Id.* at 73–74, 78.

199. The Council on Environmental Quality ("CEQ") regulations that implement NEPA confirm the centrality of the alternatives analysis. See 40 C.F.R. § 1502.14 (2014) ("This section is the heart of the environmental impact statement."); James Allen, Note, *NEPA Alternatives Analysis: The Evolving Exclusion of Remote and Speculative Alternatives*, 25 J. LAND. RESOURCES & ENVTL. L. 287, 310–11 (2005) (identifying danger signals that inadequate alternatives analysis has prevented reasoned decision making as required by NEPA).

200. 16 U.S.C. § 6514(d)(1).

201. According to the HFRA:

(2) Proposed agency action

Notwithstanding paragraph (1), but subject to paragraph (3), if an authorized hazardous fuel reduction project proposed to be conducted in the wildland-urban interface is

Once HFRA was up and running, the Forest Service was inundated with proposals for forest thinning projects to help address the threat of wildfire. To manage the influx of proposals the FWS and Forest Service adopted joint regulations that allowed a shortcut through the ESA, whereby the concurrence opinion was not required. The joint regulations did not withstand legal scrutiny.²⁰² The district court determined there were no additional delays imposed by the recently streamlined procedure for examining Endangered Species impacts.²⁰³ In fact, the Service did not argue that there were delays, but only that there could be delays, and on that basis the joint regulations were adopted. In essence, the district court determined that the recently streamlined section 7 procedures did not require alteration as they were timely addressing proposals and the agencies' requirements to conserve endangered and threatened species.²⁰⁴

HFRA's NEPA streamlining has been identified as an important step to get proposed hazardous fuels reduction projects approved and thereafter conducted quickly. Although only limited environmental review is conducted, the main components of transparency and public input are maintained. The pre-judgment that fuels reduction is in the overall benefit of the environment might not continue indefinitely. But for the time being, the rationing of NEPA has been a sound way to achieve the environmental goals without complete abandonment of NEPA's values.²⁰⁵

located no further than 1 1/2 miles from the boundary of an at-risk community, the Secretary is not required to study, develop, or describe any alternative to the proposed agency action in the environmental assessment or environmental impact statement prepared pursuant to section 102(2) of the National Environmental Policy Act of 1969 (42 U.S.C. 4332(2)).

16 U.S.C. § 6514(d)(2). Note that if the community has adopted a "community wildfire protection plan" and the proposed action does not follow the recommendations in that CWPP regarding location and methods of treatment, then the Secretary must evaluate the CWPP recommendations as an alternative to the proposed action in the EA or EIS. *Id.* § 6514(d)(3).

202. *Defenders of Wildlife v. Salazar*, 842 F. Supp. 2d 181, 185 (D.D.C. 2012).

203. *Id.*

204. *Id.* at 186 (noting evidence that consultation procedures had been successfully streamlined and were working without causing delay to fire plan projects).

205. *See, e.g.,* Domenic A. Cossi, *Getting Our Priorities Straight: Streamlining NEPA to Hasten Renewable Energy Development on Public Land*, 31 PUB. LAND & RESOURCES L. REV. 149 153 (2010) ("UFA demonstrates how Congress has already streamlined NEPA and the federal regulatory process to ensure swift development of important energy resources. The Congressional streamlining in UFA occurred even though oil shale and tar sands have devastating impacts on the environment.").

C. *Pouring Old Wine into New Skins*

The examples in Part II demonstrate how the government is rationing environmental law for the purpose of increasing the quantity of renewable energy in the shortest amount of time possible. The various methods used have historical precedents. This Subpart discusses the relationship between rationing and the traditional streamlining, fast tracking, and selective enforcement pervading natural resource development and industrialization.

The regulated community has long derided environmental laws as obstacles to progress.²⁰⁶ Scholarship on the optimum level of government regulation is prolific, and experts widely disagree on where and how to strike the balance between free market forces and regulation.²⁰⁷ Thus, the U.S. has been experimenting with rationing.²⁰⁸

For example, the U.S. Army Corps of Engineers, under the CWA, employs nationwide permits (“NWP”) to reduce the regulatory burden on individuals.²⁰⁹ If a project falls below the set triggering level, the discharger assumes a set of standard permit requirements. This approach imposes substantive requirements, but it avoids the process and time delays that an individually permitted discharger would require. Recently, the Army Corps of Engineers issued two new NWPs for renewable energy projects.²¹⁰ Rationing the application of the CWA to allow like projects to proceed without individual permitting processes will help expedite projects.

One underlying premise of these rationing efforts is the limited

206. See RICHARD N. L. ANDREWS, *MANAGING THE ENVIRONMENT, MANAGING OURSELVES: A HISTORY OF AMERICAN ENVIRONMENTAL POLICY* 255–66 (1999) (discussing the history of environmental regulation and President Regan’s de-regulation initiatives).

207. Points of disagreement include the optimum level of pollution, as well as the disagreement over whether market forces or government intervention should be used to achieve environmental protection. See generally M. Bruce Johnson, *The Environmental Costs of Bureaucratic Governance: Theory and Cases*, in *BUREAUCRACY VS. ENVIRONMENT: THE ENVIRONMENTAL COSTS OF BUREAUCRATIC GOVERNANCE* 217 (John Baden & Richard L. Stroup eds., 1981).

208. CWA violations in poor sectors of the U.S. South demonstrate that rationing by lax enforcement is a well-known phenomenon. Agricultural violations are another commonly cited area of under-enforcement. Finally, the current enforcement efforts against U.S. coal companies illustrate a turning point. See Dina Cappiello, *Coal Company to Pay Record Fine for Pollution in Kentucky, Four Other States*, ASSOCIATED PRESS, March 5, 2014, available at <http://www.kentucky.com/2014/03/05/3122855/coal-company-will-pay-record-275.html> (noting that the fine represents a turning point).

209. Nationwide Permit Program, 33 C.F.R. § 330 (2014).

210. Reissuance of Nationwide Permits, 77 Fed. Reg. 10,184, 10,235–10421 (Feb. 21, 2012) (discussing NWP 51 for land-based renewable energy projects and NWP 52 for water-based renewable energy projects, including wind or hydrokinetic).

benefits gained in return for the time delay and expense of more extensive scrutiny. In the “Smart from the Start” initiative that identified wind energy areas along the Atlantic Coast, this was termed eliminating “unnecessary red tape.”²¹¹ The streamlining implicated a number of steps. One step was to move aggressively in approving transmission lines. The DOI noted that, “assessment of WEAs should assist in the siting and environmental reviews associated with potential offshore transmission line(s).”²¹²

Bedrock laws such as NEPA were already targets for reform. NEPA applies to federal agencies that propose to carry out or approve projects that may have a significant impact on the environment.²¹³ NEPA imposes a particular procedure for agencies to analyze potential impacts on the environment. Although the law does not require a particular outcome, it does call for the assessment of environmental impacts. The requirement of a report on such impacts imposes a level of transparency and public input on approval of projects that have potential to harm the environment. Both the non-compliance with procedure and the adequacy of the EA or EIS—the documentation called for in the act—can be challenged in court. NEPA also created the Council on Environmental Quality (“CEQ”), which issues regulations to guide agency compliance. CEQ has issued guidance on the required elements of EAs and EISs, as well as the length of these documents.

NEPA’s requirements have morphed into behemoths,²¹⁴ and today threaten rapid deployment of renewables. Some argue it is the complexity of projects, while others cite the increased litigation over project approvals.²¹⁵ In any event, despite CEQ requirements regarding length, agencies regularly produce NEPA documentation that far exceed the “concise” requirements and suggested 150-page limit.²¹⁶ H.R. 2641 is known as the RAPID Act—Responsibly and Professionally

211. Press Release, Dep’t of the Interior, Overview: Offshore Wind Energy Development off the Atlantic Coast (Feb. 7, 2010), available at <http://www.doi.gov/news/pressreleases/upload/02-07-10-wea-fact-sheet.pdf> (last visited Mar. 29, 2015).

212. *Id.*

213. National Environmental Policy Act, 42 U.S.C. §§ 4321–4347 (1970).

214. See, e.g., *Bay Delta Conservation Plan*, CAL. NATIONAL RES. AGENCY, <http://baydeltaconservationplan.com/PublicReview/PublicReviewDraftEIR-EIS.aspx> (last visited Mar. 29, 2015) (providing access to over 3000 combined EIR/EIS pages in length concerning the Bay Delta Conservation Plan).

215. Irma S. Russell, *Streamlining NEPA to Combat Climate Change: Heresy or Necessity*, 39 ENVTL. L. 1049, 1051 (2009) (“Fulfilling the procedural requirements of NEPA takes time and money”).

216. 40 C.F.R. § 1502.7.

Invigorating Development Act of 2014.²¹⁷ Originally proposed July 10, 2013, it passed the House on March 6, 2014.²¹⁸ The alleged purpose of the Act is to coordinate and facilitate environmental review while simultaneously accelerating the pace of development. For an EA, the act establishes a one-year deadline for issuing a finding of no significant impact (“FONSI”) or intent to prepare an EIS. The Act establishes a two-year deadline for preparing an EIS. The Act also allows the use of state-produced environmental impact assessments in lieu of an EIS if the state NEPA equivalent provides similar public input opportunities. These reforms could help to accelerate the construction of renewable energy infrastructure.

Similar efforts at the state level have sought to eliminate the burden of the EA. In California, the state level equivalent of NEPA is the California Environmental Quality Act (“CEQA”).²¹⁹ Unlike its federal and many state counterparts, CEQA does require mitigation of significant environmental impacts.²²⁰ CEQA has been the target of legislative and executive efforts to streamline requirements with an eye to accelerating the time-line of proposed projects.²²¹ Like NEPA, CEQA litigation has exploded, and many argue it is anti-productive for environmental conservation purposes.²²² Most recent efforts to amend the law in 2013 failed.²²³

Renewable energy projects have enjoyed some NEPA fast tracking at the agency level, where insufficient staffing levels lead to long delays.

217. H.R. 2641, 113th Cong. (2014). The Bill was introduced by Rep. Tom Marino.

218. Press Release, Office of Congressman Tom Marino, House Passes Marino’s RAPID Act with Bipartisan Support (Mar. 6, 2014), available at <https://marino.house.gov/press-release/house-passes-marinos-rapid-act-bipartisan-support>.

219. CAL. RES. CODE §§ 21000–21177 (2014).

220. John Watts, *Reconciling Environmental Protection with the Need for Certainty: Significance Thresholds for CEQA*, 22 *ECOLOGICAL L.Q.* 213 (1995).

221. See Arthur F. Coon, *Are Courts Actively Limiting CEQA’s Scope in the Absence of Meaningful Legislative Reform?*, MILLER & STARR (Aug. 31, 2013), <http://www.ceqadevelopments.com/2012/08/31/are-courts-actively-limiting-ceqas-scope-in-the-absence-of-meaningful-legislative-reform/> (claiming that the judiciary is limiting reform of the CEQA by inhibiting legislation). The author notes that reform has been on the legislative agenda frequently, and that California Governor Jerry Brown has called CEQA reform “the Lord’s work.” *Id.*

222. E.g., C. Aylin Bilir, *Stopping the Runaway Train of CEQA Litigation: Proposals for Non-Judicial Substantive Review*, 35 *ENVIRONS ENVTL L. & POL’Y J.* 145, 154–57 (2012) (discussing the environmental concerns that have inhibited the CEQA, including the legal action taken by certain cities and “environmental watchdog organizations”).

223. *Clock is Running Out for Real CEQA Reform*, L.A. DAILY NEWS (Sept. 3, 2013), <http://www.dailynews.com/opinion/20130903/clock-is-running-out-for-real-ceqa-reform-editorial>.

BLM identified rights of way for solar projects ““a high priority field office workload,”” a DOI task force on energy and climate change was created and the backlog of applications addressed by Secretary Salazar in 2009 pledging to open new field offices to process applications.²²⁴ The Army Corp of Engineers adopted NWP’s to allow renewable energy projects with low-profile impacts to proceed without individual permitting under the CWA. This plethora of efforts indicates that there is momentum to adapt environmental laws in a purposeful way to facilitate renewable energy growth. A NEPA proposal like the HFRA model that allows limited alternatives, tailored to wind, solar, hydroelectric, and hydrokinetic, could cut down administrative burden and expedite timing. Expanded and integrated land-use pre-planning efforts should be explored. Rationing has successfully balanced environmental concerns and timeliness needs.

IV. COMING TO TERMS WITH RATIONING

The environmental movement has long promoted measures to curb climate change. However, a strong aversion to carving away the body of environmental laws has pervaded the alternative energy ramp up that is slowly taking hold. On a basic level, a pivot away from the laws designed specifically to preserve environmental quality is jarring. It also concedes a measure of impotence of these laws in the face of the climate change challenge. In this Part, I discuss the imperative to look broadly at the efforts to increase renewable energy as a means to displace the fossil fuel economy paradigm and achieve intergenerational equity and long-term survival.

A. Maslow’s Hierarchy of Needs Coupled with Greenwashing

Abraham Maslow posited that humans seek to achieve self-improvement and do so by fulfilling a priority of needs that is rationally ordered.²²⁵ As the history of the environmental movement illustrates, Maslow’s “hierarchy of needs” has a bearing on society’s quest for cheap energy today. As the U.S. became more affluent, the environmental movement was born; Americans had reached a level of financial comfort and sought to improve their situations in other ways.²²⁶ In the book *Breakthrough*, (which followed their essay “The

224. Lazerwitz & Bostick, *supra* note 68, at 11-11 (footnote omitted).

225. Abraham Maslow, *A Theory of Human Motivation*, 50 *PSYCHOLOGICAL REV.* 370, 370–372 (1943).

226. TED NORDHAUS & MICHAEL SHELLENBERGER, *BREAK THROUGH: FROM THE DEATH OF ENVIRONMENTALISM TO THE POLITICS OF POSSIBILITY* 5–6 (2007).

Death of Environmentalism”) authors Ted Nordus and Michael Shellenburger present their practical assessment of the way forward to address climate change. They do so by relying in large part on Maslow’s hierarchy and extrapolating to the failures in the environmental movement to recognize this innate human value ordering.

Although many environmentalists have called for a massive “energy diet,” people are not willing to forgo the benefits of electricity that are now believed to be essential to society. Nor should they lose sight of the fact that beyond the U.S., millions would benefit in developing nations from access to electricity.²²⁷ Thus, energy policy must take into account the rationality of human demand for energy, and as Nordus and Shellenburger argue, we cannot “tear[] down the old energy economy before building the new one.”²²⁸ Lest you be concerned we are unable to meet the needs of a growing and energy-hungry population, ample evidence supports the premise that “humanity already possesses the fundamental scientific, technical, and industrial know-how to solve the carbon and climate problem for the next half-century.”²²⁹

Yet as the U.S. economy crawls out of the most recent recession, the natural gas boom has been promoted as a way to green the grid and improve the economic wellbeing of many out-of-work or underemployed Americans. Climate change mitigation measures are criticized as drags on economic growth, while fossil fuel development is promoted as an economy booster. Many people assume that pollution is a necessary by-product of economic progress.²³⁰ The story is the same around the globe. For example, Europe scaled back on climate

227. This poverty alleviation mechanism of access to affordable energy creates disequilibrium between developing and developed nations that is recognized within the U.N. climate change negotiations. Thus, it is posited that nations will cooperate to respond “in accordance with their common but differentiated responsibilities and respective capabilities and respective social and economic conditions.” United Nations Framework Convention on Climate Change (UNFCCC), New York, May 9, 1992, *reprinted in* 31 I.L.M. 849 (1992). Though unsettled, the concept of “common but differentiated responsibilities” within the preamble to the United Nations Framework Convention on Climate Change posits that developing nations GHG emissions “will grow to meet their social and developing needs.” *Id.* For a further discussion, see JUTTA BRUNNEE, *Climate Change and Global Environmental Justice*, in ENVIRONMENTAL LAW AND JUSTICE IN CONTEXT 316, 324–29 (Jonas Ebbesson & Phoebe Okowa eds., 2009).

228. NORDHAUS & SHELLENBERGER, *supra* note 226, at 262.

229. Stephen Pacala & Robert Socolow, *Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies*, 305 SCI. 968 (2004).

230. *E.g.*, TED NORDHAUS & MICHAEL SHELLENBERGER, BREAK THROUGH: WHY WE CAN’T LEAVE SAVING THE PLANET TO ENVIRONMENTALISTS 33 (2009) (presenting that the percentage of people who said that we must accept a higher level of pollution to preserve jobs in U.S. increased from seventeen percent in 1996 to twenty-seven percent in 2004).

mitigation efforts based in part on a slowdown in the economy.²³¹ The E.U. carbon-trading program has imploded.²³²

In their powerful essay “Capitalism Versus the Environment,” Paul R. Ehrlich and Anne H. Ehrlich explain that there is a well-funded misinformation machine that takes advantage of the culture gap in America.²³³ The greenwashing efforts have been most prevalent by oil companies themselves.²³⁴ Today, this has translated into wildly optimistic assertions regarding the safety of natural gas, its economic benefits, and misdirection regarding the carbon footprint of natural gas usage. While indeed burning natural gas produces fewer carbon emissions (nearly half that of coal),²³⁵ the amount of gas lost through leaks potentially offsets those gains. Moreover, natural gas production through hydraulic fracturing (“fracking”) consumes significant freshwater resources. Its controversial nature is driven by the uncertainty regarding long-term impacts, potential to contaminate drinking water sources, and likely connection to tremors and earthquakes.²³⁶ Nonetheless, despite these serious environmental impacts, natural gas is promoted as a lifeboat due to vast U.S. reserves without any context for the inherent risks throughout the entire

231. Stanley Reed, Stephen Castle & Melissa Eddy, *Sluggish Economy Prompts Europe to Reconsider Its Intentions on Climate Change*, N.Y. TIMES, Jan. 16, 2014, at B3, available at http://www.nytimes.com/2014/01/17/business/energy-environment/sluggish-economy-prompts-europe-to-reconsider-climate-goals.html?_r=0 (explaining the shortcomings of the European Union Emissions Trading Scheme and the connections with the slowdown of the economy).

232. Brad Plumer, *Europe’s Cap-and-Trade Program is in Trouble. Can It Be Fixed?*, WASH. POST (Apr. 20, 2013), <http://www.washingtonpost.com/blogs/wonkblog/wp/2013/04/20/europes-cap-and-trade-program-is-in-trouble-can-it-be-fixed/> (expanding on the issue of whether Europe’s problems with the cap-and-trade program can be remedied).

233. Paul R. Erlich & Anne H. Erlich, *Capitalism Versus the Environment*, in OCCUPY THE FUTURE 183–94 (David Grusky et al. eds., 2013).

234. E.g., Miriam Cherry & Judd Sneirson, *Beyond Profit: Rethinking Corporate Social Responsibility and Greenwashing After the BP Oil Disaster*, 85 TULANE L. REV. 983, 1002–04 (2011) (claiming that corporations are taking minimal environmental-conscious steps, but then exaggerating these changes to the public to avoid future criticism); Miriam Cherry & Judd Sneirson, *Chevron, Greenwashing, and the Myth of “Green Oil Companies.”* 3 J. ENERGY, CLIMATE & ENV’T 134, 139 (2011) (discussing the frequent use of greenwashing by corporations, specifically in response to public challenges concerning environmental practices).

235. See Seth P. Cox, *The Nuclear Option: Promotion of Advanced Nuclear Generation as a Matter of Public Policy*, 5 APPALACHIAN NAT. RES. L.J. 25, 39–40 (2011) (noting emissions would only be reduced forty to fifty percent with use of natural gas as base load fuel).

236. Hannah Jacobs Wiseman, *Remedying Regulatory Diseconomies of Scale*, 94 B.U. L. REV. 237, 242–64 (2013); Hannah Jacobs Wiseman, *Risk and Response in Fracturing Policy*, 84 U. COLO. L. REV. 729, 757–804 (2012); Hannah Jacobs Wiseman, *Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas Production and the Need to Revisit Regulation*, 20 FORDHAM ENVTL. L. REV. 115, 125–35 (2009).

exploration, production, and processing phases.²³⁷

At least one step in the right direction is the increasing pressure on fossil fuel-based corporations to disclose their plans to address future liabilities in a carbon-constrained world. As Peabody Energy and ExxonMobil reported their plans to shareholders, the transparency lacking on these issues will be improved.²³⁸ The costs of fossil fuel use on human health and the environment are often obscured. But there is certainty that people will continue to seek cheap energy, and unless something replaces it, fossil fuel use will continue indefinitely.²³⁹

B. Rationing and the Goals of Environmental Law

Environmental law has developed over time to mediate people's use of the environment, with a special concern for reducing impacts on the quality of water, air, and human health.²⁴⁰ Conservation efforts have run parallel with the health regulations, and now a robust wildlife and conservation element pervades environmental policymaking more broadly than physical human health concerns.²⁴¹

Climate change will have dramatic health impacts. The World Health Organization estimates that air pollution causes approximately 3.1 million premature deaths per year.²⁴² Health risks from exposure to pollution include heart attack, lung cancer, and respiratory infections.²⁴³ The impacts of climate change fall disproportionately on the poor, although eventually we will all be touched by the negative consequences.²⁴⁴ As the fifth assessment by the IPCC reports:

237. See generally Monika Ehrman, *The Next Great Compromise: A Comprehensive Response to Opposition Against Shale Gas Development Using Hydraulic Fracturing In the United States*, 46 TEX. TECH L. REV. 423, 464–66 (2014) (advocating dialogue to address trade-offs and reach consensus on mix of energy resources using risk-reward analysis); Uma Outka, *Environmental Law and Fossil Fuels: Barriers to Renewable Energy*, 65 VAND. L. REV. 1679, 1702–05 (2012) (explaining how environmental law's constrain-and-permit approach fails to account for differences in the harms generated by fossil fuels compared to renewable energy projects).

238. See Meagan Clark, *ExxonMobil Yields to Pressure on Fracking, Agrees to Disclose Risks*, INT'L BUS. TIMES (Apr. 04, 2014), <http://www.ibtimes.com/exxonmobil-yields-pressure-fracking-agrees-disclose-risks-1567486> (explaining ExxonMobil's decision to disclose fracking risks to shareholders).

239. See generally ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2014 (2014) (projecting continued and increased reliance on natural gas through 2040).

240. ANDREWS, *supra* note 206, at 1–5.

241. *Id.* at 136–37.

242. WORLD HEALTH ORG., EXPOSURE TO AIR POLLUTION: A MAJOR PUBLIC HEALTH CONCERN (2010), available at http://www.who.int/ipcs/features/air_pollution.pdf.

243. *Id.*

244. Maxine Burkett, *Just Solutions to Climate Change: A Climate Justice Proposal for a*

“Climate-related hazards affect poor people’s lives directly through impacts on livelihoods, reductions in crop yields, or destruction of homes and indirectly through, for example, increased food prices and food insecurity.”²⁴⁵

The IPCC Fifth Assessment identifies the relative lack of emphasis on understanding and managing the multiple “co-benefits, synergies, and tradeoffs” associated with strategies mitigating GHG pollution.²⁴⁶

Increasing efforts to mitigate and adapt to climate change imply an increasing complexity of interactions, particularly at the intersections among water, energy, land use, and biodiversity, but tools to understand and manage these interactions remain limited. Examples of actions with co-benefits include (i) improved energy efficiency and cleaner energy sources, leading to reduced emissions of health-damaging climate-altering air pollutants; (ii) reduced energy and water consumption in urban areas through greening cities and recycling water; (iii) sustainable agriculture and forestry; and (iv) protection of ecosystems for carbon storage and other ecosystem services.²⁴⁷

The IPCC specifically cited the benefits of cleaner energy sources for health purposes. The possibilities for finding win-win solutions can only be sought as we transition from a fossil fuel economy entirely. U.S. culture is built around fossil fuel consumption, and until the renewable energy infrastructure and economy is built, our culture will not begin to shift.²⁴⁸ Indeed, a growing global culture that emulates patterns of consumptions associated with the western world puts additional pressure on resources and reliance on fossil fuels.

Environmental law is also a tool for conserving options for the future, both for the current people living on Earth and in terms of intergenerational equity.²⁴⁹ Developing a jurisprudence that values the

Domestic Clean Development Mechanism, 56 BUFF. L. REV. 169, 173–88 (2008).

245. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 6, at 6–8.

246. *Id.* at 28.

247. *Id.* (internal quotation omitted).

248. KELLEY, *supra* note 13, at 2–3, 6–7. Because fossil fuels are concentrated and mobile, the current centralized energy infrastructure is viable, but with renewable energy sources like wind, solar, and hydropower, a distributed network of energy production and deployment must be created. *Id.* at 7. The transportation sector will have to change. *Id.* at 167–69. Thus, while discussing why the environmental benefits of renewable energy are often overlooked, author Ingrid Kelly also argues that “much of the resistance to renewable energy comes from the fact that the United States is heavily invested in fossil fuels and is loathe to change.” *Id.* at 137.

249. See Judith E. Koons, *At the Tipping Point: Defining an Earth Jurisprudence for Social and Ecological Justice*, 58 LOY. L. REV. 349, 351 (2012) (advocating transformation of the jurisprudence underlying existing laws and structures and re-thinking law and governance from an Earth-centered perspective).

Earth as our ultimate life support requires deep inquiry into the unsustainable practices on which our societies are now built. This is an enterprise that necessitates reevaluating laws.²⁵⁰ It requires that we move beyond dependence on oil and actually create a post-petroleum world.²⁵¹ Given these realities, it is prudent to pre-judge many renewable energy projects as beneficial to the environment and ration application of NEPA, the ESA, and state-analogous laws accordingly. Experimental permitting could be broadly expanded, as could small-scale exceptions such as with hydrokinetic and hydropower projects.

However, it is a far cry to suggest that in adapting law, and in particular environmental law, we would move away from the values expressed by the law.²⁵² Indeed, a close examination of the canon of environmental law and related laws on the periphery of the canon by Professor Todd Aagaard demonstrates that the field is both diverse and broad, but has at its primary endpoints to “protect human health as impacted by the natural environment, other human uses of environmental resources, and ecological health directly.”²⁵³ These laws focus on human and ecological health, and have harm as a unifying concept.²⁵⁴ It is now evident that climate change is bringing about harms much as traditional pollution has done in the past.

We can also be mindful when rationing laws for renewable projects that we discern and apply the lessons from past efforts to use existing law to combat climate change. Scholars have noted that climate change litigation has followed a “business as usual” pathway in the courts.²⁵⁵ Professor J. B. Ruhl evaluated the potential impacts of the Supreme Court’s jurisprudence in the context of the ESA.²⁵⁶ His lessons for the potential future design of environmental law argue poorly for how climate regulation will fare in the courts, if we do see major progress on

250. See Victor B. Flatt, *Adapting Laws for a Changing World: A Systematic Approach to Climate Change Adaptation*, 64 FLA. L. REV. 269, 275–91 (2012) (pulling together strands of scholarly arguments to advocate for a broader approach to adaptation of law in view of climate change challenges).

251. Judith E. Koons, *Earth Jurisprudence and the Story of Oil, Intergenerational Justice for the Post-Petroleum Period*, 46 U.S.F. L. REV. 93, 95 (2011).

252. See Flatt, *supra* note 250, at 293 (discerning within the discourse on adaptation of law the principle to “hew to original purposes” where possible).

253. Aagaard, *supra* note 11, at 1247 (internal citations omitted).

254. Albert C. Lin, *The Unifying Role of Harm in Environmental Law*, 2006 WIS. L. REV. 897, 901 (2006) (articulating that harm is a normative concept reflecting value judgments).

255. Dave Markell & J. B. Ruhl, *An Empirical Assessment of Climate Change In The Courts: A New Jurisprudence or Business as Usual?*, 64 FLA. L. REV. 15, 15 (2012).

256. J. B. Ruhl, *The Endangered Species Act’s Fall from Grace in the Supreme Court*, 36 HARV. ENVTL. L. REV. 487, 511–16 (2012).

that front in the future. Examining the apathy, ignorance, and hostility thesis posited by various environmental scholars, Professor Ruhl concludes that:

More than anything in this respect, the ESA cases suggest the Court holds a deep skepticism of environmental law generally, particularly when business interests are on the line. The perfect storm for unleashing the Court's wrath, moreover, brews when an environmental law directly regulates private lands and resources, without mechanisms to ensure cost-benefit or cost-effective regulation, and without attention to the potential for inequitable distribution of costs and benefits.²⁵⁷

If they come about, carbon cap-and-trade programs will certainly help to address the mechanisms for cost-effective regulation, but they may not be able to capture the inequitable distribution of costs and benefits or the direct impact on private land and resources that necessary carbon reduction laws must address.²⁵⁸ Renewable energy can help to fill in that space. We must use our environmental laws toward the ends of creating a brighter future, with renewable energy as an important part of the needed change away from a fossil-fuel-dominated economy.

C. Combating the Guilt-Factor of a "Green Pass"

Throughout this Article, I have argued that there is a survival imperative for rationing environmental laws. Opposition to any variation from the strict application of environmental laws stem in part from the concern that renewable energy projects would be pre-judged as beneficial to the environment. It is the belief of many environmentalists, however, that it is only through the application of our environmental laws that we are able to judge the merit of such an assertion. Many of our laws aid in this evaluation but certainly do not only serve that purpose.

Bedrock environmental laws such as the ESA may frustrate renewable energy projects—either stopping them entirely or drawing out their implementation along a much lengthier timeframe. This reality has led to this fundamental policy question by one ESA scholar:

257. *Id.* at 532.

258. See Alice Kaswan, *Greening the Grid and Climate Justice*, 39 ENVTL. L. 1143, 1145–46, 1152–54 (2009) (arguing that policymakers should integrate into the design of new energy infrastructure climate justice concerns); Dan A. Farber, *Emissions Trading and Social Justice* (Berkeley Law, Ctr. for Law, Energy & the Environment, Aug. 2011), available at http://www.law.berkeley.edu/files/Emissions_Trading_and_Social_Justice.pdf.

[W]hether the FWS . . . as a matter of policy should, go lighter in some meaningful way when the land use in question is, on balance, such a clear and overwhelming *environmental* positive. Although many representatives of the wind power industry, environmental groups, and wildlife agencies have eschewed the idea of such a “green pass” and joined in efforts to promote ESA compliance, the FWS has received pressure from some interest groups to ease off. This and similar proposals thus merit attention, particularly as the demand for renewable energy is likely only to increase.²⁵⁹

The notion of a “green pass” is not unlike the wide variety of exemptions, exceptions, variances, carve-outs, and non-enforcement decisions we see riddled throughout the entire landscape of oil, gas, and coal regulation. These “weaknesses” in our laws have caused great harm to the environment and have prevented environmental protection from reaching ever-greater levels both along quantitative and qualitative measures. One of the most recent high-profile pollution events, the BP Deepwater Horizon Blowout Disaster, can fairly be characterized as an example of these practices. Categorical exclusions from NEPA allowed the -(the federal agency responsible for permitting at the time) to approve BP’s operations without searching environmental impact assessment otherwise required under NEPA.²⁶⁰

Nonetheless, there is a magnitude of difference between continued offshore oil drilling and renewable energy projects with much lower risk profiles. There is no doubt some line drawing would be necessary. For example, the debate over all non-carbon forms of energy—such as the continued debate over nuclear power as part of a greener grid.²⁶¹ However, imperfect line drawing is preferable to the continued use of ill-fitting laws—such as the CWA, ESA, and NEPA—that just as often thwart good renewable energy projects for reasons unrelated to their environmental benefits.

259. Ruhl, *supra* note 60, at 1774 (internal citations omitted).

260. NAT’L COMM’N ON THE BP DEEPWATER HORIZON OIL SPILL & OFFSHORE OIL DRILLING, *DEEP WATER: THE GULF OIL DISASTER AND THE FUTURE OF OFFSHORE DRILLING* 81–83 (2011), available at <http://www.gpo.gov/fdsys/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf>.

261. *E.g.*, Tamar Jergensen Cerafici, *Is New Always Better? The Case For License Renewal In The Next Generation*, 26 PACE ENVTL. L. REV. 391, 391 (2009) (arguing that nuclear power has an important role in shifting to a greener economy); Cox, *supra* note 235, at 44 (advocating recognition of nuclear energy as green and explaining benefits for base load compared with renewable fuels and natural gas).

D. “Good Enough is the New Perfect”²⁶²

Rationing is, being extremely generous, at most a second-best option. Although many scholars, policymakers, and activists advocate a holistic approach where all forms of energy generation will be lined up and evaluated for an ideal mix, this is not feasible under the current regime. In fact, renewable energy projects face more burdens due to built-in risk-aversion feedback loops that allow new fossil fuel projects to move forward in a faster time frame than renewable projects.²⁶³

Another rationale for the slow-but-steady and traditional approach to renewable energy is the proposition that support within the environmental community for a transition should be maintained and built upon. The buy-in from pro-environment interests may never materialize. For example, Professor Alexandra Klass emphasizes that because renewable energy enjoys support from environmentalists, we should be weary to alienate those interests lest we unleash an “avalanche of litigation” as has occurred in the context of traditional fossil fuel and other energy development projects.²⁶⁴ Unfortunately, the storm has not just brewed, but indeed litigation as well as other forms of not-in-my-backyard (“NIMBY”) protest has been ever present.²⁶⁵ This minimizes the purported benefit of support from environmental interests and raises a question of how to secure buy-in from the environmental community given existing efforts to do so. As one lawyer has put it: “[E]ach permit granted could be fertile ground for litigation.”²⁶⁶

For example, the Environmental Defense Fund led a coalition of signatories to commit to first principles in the ocean renewable energy sector.²⁶⁷ Following the rationale that securing buy-in and support

262. BECKY BEAUPRE GILLESPIE & HOLLEE SCHWARTZ TEMPLE, *GOOD ENOUGH IS THE NEW PERFECT: FINDING HAPPINESS AND SUCCESS IN MODERN MOTHERHOOD* (2011) (contending that working mothers can obtain the things they want most in life by redefining success in terms that are consistent with their personal values and highest priorities).

263. Boisvert, *supra* note 58, at 136.

264. Alexandra B. Klass, *Energy and Animals: A History of Conflict*, 3 *SAN DIEGO J. CLIMATE & ENERGY L.* 159, 160 (2011–2012).

265. See Susan Lorde Martin, *Wind Farms and NIMBY: Generating Conflict, Reducing Litigation*, 20 *FORDHAM ENVTL. L. REV.* 427, 427–28 (2010) (noting that successful suits by those suing in their own self-interest are often brought by those people among the most affluent in society); Eric R. A. N. Smith & Holly Klick, *Explaining NIMBY Opposition to Wind Power*, U.C. SANTA BARBARA DEP’T POL. SCI. 2–3 (Aug. 29, 2007), <http://www.polsci.ucsb.edu/faculty/smith/wind.pdf> (explaining NIMBY protest to wind power based on results of an internet survey).

266. Heather M. Howard & Elizabeth A. Pierson, *Alternative Energy: Not In My Back Yard*, KING & SPALDING LLP LAW 360 (Nov. 10, 2010), <http://www.kslaw.com/imageserver/KSPublic/library/publication/KingSpalding-Guest-AlternativeEnergy-111110.pdf>.

267. The principles are analyzed in detail in Jack K. Sterne et al., *The Seven Principles of*

would pave the way to speedier project siting, developers were caught off guard at local resistance to projects that met agreed-upon best practices. For example, when developers targeted proposals for wave energy projects in the Pacific Ocean offshore affluent California locations, the challenges by local landowners were insurmountable, and proponents withdrew interest. Similar NIMBY challenges have occurred with solar and wind projects.²⁶⁸

Champions for environmental resilience must be reminded of the larger context of this struggle. First, as with the historical impetus for environmental protection laws, it is important to emphasize that the same health dangers from fossil fuel use that the CAA and CWA, among other laws, focus on, will be remedied by a greener grid that is powered by wind, solar, and other non-carbon sources.²⁶⁹ Second, as environmental justice proponents have advocated, a healthy environment is not fairly limited to only the most affluent sectors of the society. Developing nations face the greatest challenges from climate change, and they are still managing their development aspirations with access to cheap electricity—a foundational component of poverty eradication and economic growth. Last, intergenerational equity is also a key value of environmental law. The further we push the climate warming models with extended GHG emissions, the more costs we shift to future generations to adapt and quite possibly suffer fewer options and ability to meet desired levels of development.

Renewable energy projects are not the panacea to cure our energy needs with zero environmental costs. But they also bear insurmountable expectations that such projects will increase jobs, be just and equitable as defined by the environmental justice movement, be environmentally benign and be cost effective. No single energy project can achieve this, but the U.S. can create a new energy economy that promotes these objectives.

E. Imagine the Future: A Bridge to Somewhere Good

It is well within our capacity to make the changes necessary to transition from a fossil fuel economy.²⁷⁰ In their seminal article

Ocean Renewable Energy: A Shared Vision and Call for Action, 14 ROGER WILLIAMS U. L. REV. 600 (2009).

268. See Howard & Pearson, *supra* note 266 (discussing Cape Wind Associate offshore wind project in Nantucket Sound, Massachusetts and Panoche Valley Solar Farm in San Benito County California).

269. Kaswan, *supra* note 258, at 1146–50.

270. Pacala & Socolow, *supra* note 229, at 968.

“Stabilization Wedges: Solving the Climate Problem for the Next 50 Years With Current Technologies,” Robert Socolow and Stephen Pacala demonstrate the “flat path” to avoid doubling carbon dioxide emissions through the use of existing technologies.²⁷¹ Of the various means, using alternative energy such as wind and solar is one piece of a broader strategy, presented without comparing costs or environmental impacts.²⁷² Although this future is imaginable and in our grasp,²⁷³ obstructionists to change can infuse the public with doubt and stall policymaking that helps to achieve that future. “You never change things by fighting existing reality. To change something, build a new model that makes the existing model obsolete.”²⁷⁴

Congress has failed to adopt GHG emission requirements or engage meaningfully in international efforts to curb runaway climate change. Beyond the typical critique that major reforms are untenable given the current politics of Washington, D.C., the wall of opposition to climate change regulation is ideological. As *New York Times* opinion editor Paul Krugman summarized, we know that climate change consequences will be terrible, and “in pure economic terms the required action shouldn’t be hard to take: emission controls, done right, would probably slow economic growth, but not by much.”²⁷⁵ Instead of merely “vested interests” as some might contend, Paul Krugman posits that it is a “toxic mix of ideology and anti-intellectualism.”²⁷⁶ As another author put it, “[e]nergy politics is becoming dominated by dogma, and it shows signs of turning into a religion”²⁷⁷

The backbone of a renewable energy future must be built without regard to the future of carbon-constraining regulation. Combating ideology can be only one leg in a multi-tiered strategy to achieve a prosperous renewable energy future. Such lawmaking may be forthcoming, but continued debates over the viability of alternative

271. *Id.*

272. BOSSELMAN ET AL., *supra* note 102, at 25.

273. *See generally* LOVINS *supra* note 13.

274. *Id.* at 166.

275. Paul Krugman, *Interests, Ideology and Climate*, N.Y. TIMES, June 8, 2014, at A19, available at http://www.nytimes.com/2014/06/09/opinion/krugman-interests-ideology-and-climate.html?_r=0.

276. *Id.* His piece relies on the U.S. Chamber of Commerce funded study of the costs of carbon regulation to demonstrate that although the costs are not high, resistance and vehement denial is. *Id.*

277. RICHARD A. MULLER, ENERGY FOR FUTURE PRESIDENTS: THE SCIENCE BEHIND THE HEADLINES 140 (2012) (noting the complexity of alternative energy and raging debates over specific types of alternative sources such as nuclear, and the unproven capacity of other sources).

energy to power the economy will endure unless the capacity is actually built out.²⁷⁸ Activists, thought leaders, and intellectuals can take us only so far. For some segments of society, only seeing is believing.

CONCLUSION

The U.S. must face the trade-offs implicit in rationing environmental law in a time of climate change. Trade-offs come with a necessary acceptance of loss. Pre-judging renewable energy projects as net beneficial to the environment is a step in the right direction. With a growing comfort level from successful examples we may yet be able to accelerate the supply of green energy and climate change mitigation projects while maintaining the values environmental laws embody. Climate change is indeed unfolding as the horror story we knew was coming. In *Survivor Type*, the protagonist lost it all. His path led not to salvation, but to demise. It may challenge our sensibility to carve into the body of environmental law for the opportunity to forge a sustainable future. Unlike in *Survivor Type*, there is no expectation of salvation from outside. It is up to us to create our own solutions and preserve the viability of a livable planet for humanity.

278. See *id.* at 140 (noting that some people are enthusiasts for particular forms of energy while others deny technological capacity). His advice to future presidents is to “be ready for the complaint that it ‘isn’t proven.’” *Id.*