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INTRODUCTION

President Obama has proclaimed that "we are ushering in a new era of green energy that will benefit our economic recovery, our security, and our long-term prosperity."[1] The environmental benefits of renewable energy go without saying. The development of renewable energy holds the promise of creating an infrastructure that is designed to achieve environmental goals for the first time in American history.[2] Previously, cities were located, highways were built, and energy was produced with environmental quality as a secondary goal at best. Now there is a determined effort to establish an energy supply whose lesser environmental impact is its primary attraction.

Renewable energy is not, however, the only type of green project. Efforts to restore the environment to a past natural state have become increasingly common. We encourage the restoration of wetlands, the reintroduction of species to their previous habitats, and the removal of dams in order to achieve ecological restoration. We spend billions of dollars to clean up properties that are contaminated with hazardous wastes. Green building is widely promoted. Green goals are becoming more common as we pursue other important societal goals, such as providing transportation and regulating land use.

Green projects share another characteristic: sometimes they are not so green after all. Even the most environmentally friendly projects may result in some kinds of environmental

* John N. Matthews Professor, Notre Dame Law School. I am grateful for comments offered by Bruce Huber, Alexandra Klass, Uma Outka, Karen Bradshaw Schulz, and the environmental law professor listserve. I am also grateful to Elizabeth Pfenson for excellent research assistance.

1. Proclamation No. 8431, 74 Fed. Reg. 51,735 (Oct. 2, 2009).

2. *See* J.B. Ruhl, *Harmonizing Commercial Wind Power and the Endangered Species Act Through Administrative Reform*, 65 VAND. L. REV. 1769, 1774 (2012) (observing that "national infrastructure projects . . . were all for the most part built and operating before 1973"); U.S. DEP'T OF THE INTERIOR & U.S. DEP'T OF AGRIC., NEW ENERGY FRONTIER: BALANCING ENERGY DEVELOPMENT ON FEDERAL LANDS 6 (2011) [hereinafter NEW ENERGY FRONTIER], *available at* http://www.slideshare.net/USInterior/new-energy-frontier-report-7940581 (noting that "renewable energy developers are working to create a new energy industry under clean, safe standards from the outset").

harm. The removal of a dam can disrupt the ecosystem that had developed around the dam. Efforts to preserve one species may harm another. And renewable energy can have substantial impacts on biodiversity, scenic landscapes, water supplies, cultural resources, and other aspects of the environment.[3] These environmental harms are not unique to renewable energy, but the fact that green projects produce green harms presents a special challenge for environmental law and policy.

This article examines environmental law's three contrasting approaches to the green harms of green projects. Sometimes the law allows the green benefit regardless of the green harm. Sometimes the law prohibits the green harm regardless of the green benefit. And sometimes the law allows a balancing of all of the harms and benefits, green or not. Given these options, I argue that the law should not ignore or understate green harms even if they are caused by green projects. There are some types of green harms that no benefit can justify. But if we decide that the benefits of a green project are so significant that we should tolerate its green harm, then we should also be willing to tolerate environmental harms from other projects that produce different kinds of benefits.

Part I of this article describes the green harms of green energy projects. Part II considers how environmental law has been employed to challenge green energy projects. Part III examines the three ways in which environmental law has addressed the green harms of all sorts of green projects. I conclude by identifying some green harms that should not be tolerated regardless of the green benefit, and by suggesting a more

3. I do not consider here the unexpected harms of green projects, such as the water contamination caused by requiring the use of MTBE in gasoline or the spread of hazardous wastes by an erstwhile Superfund cleanup. Nor do I consider other obstacles to renewable energy production. *See American Energy Initiative: Identifying Roadblocks to Wind and Solar Energy on Public Lands and Waters, Pt. II—The Wind and Solar Industry Perspective: Oversight Hearing Before the H. Comm. on Natural Resources,* 112th Cong. 8 (2011) [hereinafter *Roadblocks to Wind and Solar Energy Hearing*] (statement of Roby Roberts, Co-Chairman, Legislative Committee, American Wind Energy Ass'n) (testifying that "[t]he biggest roadblock facing the wind energy industry right now is a lack of consistent and long-term Federal policy to support renewable energy," especially inconsistent tax credits); *id.* at 58 (statement of Dan W. Reicher, Executive Director, Steyer-Taylor Center for Energy Policy & Finance, Stanford University) (listing inadequate funding of research and development, technological development and commercialization, cost-competitiveness, and siting as obstacles to wind energy development); Uma Outka, *Environmental Law and Fossil Fuels: Barriers to Renewable Energy*, 65 VAND. L. REV. 1679 (2012) (contrasting the subsidies and regulatory assistance provided to fossil fuel production but not renewable energy).

general balancing approach to consider all harms and benefits in other circumstances.

I. The Green Harms Caused by Green Projects

Wind and solar energy production is viewed as the ultimate green project.[4] Wind and solar energy do not emit greenhouse gases and they do not pollute the air or the water. Compared to the use of fossil fuels to produce energy, such renewable energy is green indeed.

But wind and solar power are green only by comparison to other forms of energy production. They are not green in the sense that they make the environment better. Only geoengineering holds out the hope of actually reducing the amount of greenhouse gases in the environment; at best, renewable energy preserves the status quo. That could be a very significant environmental accomplishment because the existing methods of producing energy are likely to worsen the environment rather than maintain the status quo. The worst effects of climate change are associated with a continued rise in greenhouse gas emissions, whereas the effects that could result from current levels of greenhouse gases are relatively less severe and perhaps more manageable.

Yet the law is not satisfied with the environmental status quo in other contexts. The Superfund law aspires to remove hazardous wastes from a contaminated site, even if the law sometimes settles for preventing those wastes from spreading. The Clean Air Act contains provisions designed to maintain good air quality and to improve dirty air. The Clean Water Act encourages both the preservation of existing wetlands and the restoration of wetlands that have been degraded or destroyed. The very notion of ecological *restoration* presumes that we can—and should—seek to make the environment better than it is now.

The characterization of renewable energy as green makes sense even if it is not actually making the environment greener.

4. "Green energy," "renewable energy," and "clean energy" are susceptible to various definitions. *See, e.g.*, *In re* Erving Indus., 432 B.R. 354, 427 (Bankr. D. Mass. 2010) (explaining that "[g]reen power is usually defined as power from renewable energy that comes from wind, solar, biomass energy, etc."); Uma Outka, *Environmental Justice in the Renewable Energy Transition*, J. Envtl. & Sustainability L. (forthcoming 2013) (describing numerous different ways in which federal and state law defines "renewable energy"). The status of nuclear energy, hydroelectric power, clean coal, and natural gas is especially likely to vary depending on the definition. Wind and solar energy qualify as green, renewable, and clean under all definitions of the terms, and those are the two types of energy that I am concentrating on here.

Renewable energy is the least environmentally harmful way of engaging in the necessary activity of producing energy. But wind and solar power also cause significant environmental harms. We used to believe that wind and solar power were environmentally harmless,[5] but experience has confirmed that even those sources of green energy can cause substantial green harms.

These harms have been documented by an increasing number of studies. The Bureau of Land Management (BLM), for example, has prepared programmatic environmental impact statements (PEISs) that address the environmental harms resulting from wind and solar energy production on public lands.[6] Further detail appears in the individual environmental impact statements (EISs) that are prepared for specific projects. There are also numerous recent scientific and policy reports that have examined the environmental impacts of wind and solar energy. Together, these studies show that producing wind and solar energy can be especially harmful to biodiversity, scenic landscapes, water supplies, natural quiet, and cultural resources, and that other harms can result as well.

A. *Biodiversity*

Wind energy can be deadly for biodiversity, especially birds and bats. Wind turbines can kill or injure birds in several different ways. The image of birds being pureed when they fly into a whirling blade is the most haunting. One golden eagle was found in four parts after its fatal encounter with a wind turbine.[7]

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5. *See Gone with the Wind: Impacts of Wind Turbines on Birds and Bats: Hearing Before the Subcomm. on Fisheries, Wildlife and Oceans of the H. Comm. on Natural Resources*, 110th Cong. 20 (2007) [hereinafter *Gone with the Wind Hearing*] (statement of H. Dale Hall, Director, Fish and Wildlife Service, U.S. Department of the Interior) ("Although wind power facilities were once thought to have practically no adverse environmental effects, it is now recognized wind energy, like all power generation technologies, can have adverse impacts . . . ."); *Environmental Impacts of Renewable Energy Technologies*, ALBERNI ENVTL. COALITION, http://www.portaec.net/library/energy/environmental_impacts_of_renewab.html (last visited Mar. 12, 2013) (asserting that "[i]t is hard to imagine an energy source more benign to the environment than wind power").

6. *See* BUREAU OF LAND MGMT. & U.S. DEP'T OF ENERGY, FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (PEIS) FOR SOLAR ENERGY DEVELOPMENT IN SIX SOUTHWESTERN STATES (2012) [hereinafter BLM SOLAR FPEIS], *available at* http://solareis.anl.gov/documents/fpeis/index.cfm; BUREAU OF LAND MGMT., FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT ON WIND ENERGY DEVELOPMENT ON BLM-ADMINISTERED LANDS IN THE WESTERN UNITED STATES (2005) [hereinafter BLM WIND FPEIS], *available at* http://windeis.anl.gov/documents/fpeis/index.cfm.

7. *See Gone with the Wind Hearing*, *supra* note 5, at 47 (statement of Eric R. Glitzenstein, Partner, Meyer Glitzenstein & Crystal). To see a video of an eagle

Another wind project was blocked after an elderly activist complained that "our birds would look like they went through a Cuisinart" if the turbines were built.[8] Turbine blades appear to be moving slowly, but they reach speeds of nearly 170 miles per hour at the tip of the blade, so "birds apparently do not perceive the danger until it is too late, and are struck by surprise in a manner comparable to road kills from high-speed vehicles."[9] A West Virginia wind farm killed fifty-nine birds in one night when the birds were attracted to the turbines when a light was accidentally left on.[10] One month later, 484 birds were killed at another West Virginia wind farm.[11] Altogether, wind turbines kill 440,000 birds annually according to the Fish and Wildlife Service (FWS).[12] And collisions are just one of the ways in which wind farms harm birds. Birds are often electrocuted when they touch transmission lines. Wind energy projects also destroy or degrade habitats, displace birds from their habitats, and disrupt ecological links.[13]

Some birds are much more vulnerable to wind turbines than others. According to BLM, passerines (i.e., "perching birds") account for 80% of the fatalities at new energy projects, with nocturnal migrants representing half of that total.[14] Raptors face particular danger because they fly at the height of the turbines, they like to perch on tall structures, and they favor the open expanses that are also the windiest. Moreover, "[f]atalities of raptors are of special concern because of their generally low

killed by flying into a wind turbine, visit Mark J. Perry, *Legal Double Standard: Wind Energy Industry Gets Unofficial License to Kill Birds, Oil and Gas Don't*, CARPE DIEM (Mar. 8, 2012), http://mjperry.blogspot.com/2012/03/legal-double-standard.html?m=1.

8. ROBERT W. RIGHTER, WINDFALL: WIND ENERGY IN AMERICA TODAY 104–05 (2011) (quoting the testimony of a representative of the California State Racing Pigeon Organization at a planning commission meeting).

9. GEORGE C. LEDEC ET AL., THE WORLD BANK, GREENING THE WIND: ENVIRONMENTAL AND SOCIAL CONSIDERATIONS FOR WIND POWER DEVELOPMENT 15 (2011) (citation omitted).

10. *See* Lawrence Hurley, *Wind: Obama Admin Sweats Legal Response as Turbines Kill Birds*, GREENWIRE (Jan. 26, 2012), http://www.eenews.net/public/Greenwire/2012/01/26/1 (citing the statistic but noting that the wind industry "says the figure is much lower").

11. *See id.*

12. *See id.*; *see also* BLM WIND FPEIS, *supra* note 6, at 5-57 (citing a study finding that the 15,000 wind turbines operating in the United States in 2001 killed 33,000 birds).

13. *See Gone with the Wind Hearing*, supra note 5, at 72 (statement of Michael Daulton, Director of Conservation Policy, National Audubon Society).

14. BLM WIND FPEIS, *supra* note 6, at 5-63.

numbers and protected status."[15] Wind energy could also harm iconic endangered bird species that have begun to rebound thanks to extensive (and expensive) recovery efforts. A FWS official once remarked that "basically you can overlay the strongest, best areas for wind turbine development with the whooping crane migrations corridor."[16] California condors may be at risk from a planned wind farm in the southern Sierra Nevada Mountains in California.[17] A wind energy project planned for North Dakota is expected to kill bald eagles and piping plovers.[18] Numerous Hawaiian birds are endangered and thus especially vulnerable to the development of wind power there.[19]

Another bird that is being considered for Endangered Species Act (ESA) listing is vulnerable to the rapid expansion of wind farms in the western plains. The greater sage grouse lives amidst sagebrush ecosystems throughout the western United States and Canada. The bird's population has shrunk with the disappearance of those sagebrush habitats. Sage grouse are unlikely to collide with wind turbines. Instead, "large-scale developments have the potential to reduce the size of sagebrush habitats directly, degrade habitats with invasive species, provide pathways for synanthropic predators (i.e., predators that live near and benefit from an association with humans), and cumulatively contribute to habitat fragmentation."[20] The FWS has found that "[o]ver 30 percent of the sagebrush lands in the sage-grouse range have high potential for wind power."[21] In particular, "south-central and southeastern Oregon have large areas of relatively unfragmented sage-dominated landscapes which are important for maintaining long-term connectivity between the sage-grouse populations."[22] The EIS for one proposed wind farm

15. *Id.* at 5-62.

16. RIGHTER, *supra* note 8, at 108 (quoting Tom Stehn, FWS whooping crane coordinator).

17. *See* Complaint for Injunctive and Declaratory Relief, Sierra Club v. Kenna, No. 2:12-at-00502 at 2 (E.D. Cal. Apr. 03, 2012) [hereinafter Sierra Club Complaint] (concerning the North Sky River wind farm).

18. *See* Letter from William S. Eubanks II et al. to Jennifer Turnbow, KLJ (Feb. 7, 2013), *available at* http://www.eenews.net/assets/2013/02/08/document_gw_05.pdf (regarding scoping comments concerning the Merricourt wind power project in Dickey and McIntosh Counties, North Dakota).

19. *See* Alexandra B. Klass, *Energy and Animals: A History of Conflict*, 3 SAN DIEGO J. CLIMATE & ENERGY L. 159, 185 (2012).

20. Endangered and Threatened Wildlife and Plants; 12-Month Findings for Petitions to List the Greater Sage-Grouse (Centrocercus urophasianus) as Threatened or Endangered, 75 Fed. Reg. 13,910, 13,952 (Mar. 23, 2010) (to be codified at 50 C.F.R. pt. 17).

21. *Id.* at 13,950.

22. *Id.*

in Oregon along the Nevada border emphasized the multiple impacts on sage grouse: tall structures could discourage sage grouse from remaining in or traveling through the area, noise could disturb nesting, new transmission lines would create a collision hazard and "create more perch sites and could result in increased predation on sage-grouse eggs and chicks," and habitat could be fragmented by removing sagebrush to build roads and other infrastructure.[23] Sage grouse are also relatively abundant in Wyoming in the same places where wind farms are being contemplated.

As bad as wind turbines can be for birds, they may be even worse for bats. Bats are attracted to wind turbines for reasons that are still not fully understood, with some bat species suffering much greater losses at wind farms than others. There are relatively few collisions between bats and turbine blades. Bats are more likely to experience "barotrauma," which results from the rapid reduction in air pressure near the rapidly spinning blades and causes severe tissue damage to the large and pliable lungs of bats.[24] The FWS has estimated that one West Virginia wind farm could kill 9500 bats annually.[25]

A variety of other species could be affected by wind projects that are located throughout the country. For example, a proposed Vermont wind farm could adversely affect a local black bear population.[26] The environmental review of a wind farm in northwestern Illinois concluded that "is likely to adversely modify the essential habitat of the state-listed Ornate Box Turtle, Plains Hognose Snake, and Regal Fritillary Butterfly, and may adversely modify habitat for the state-listed Blanding's Turtle, Yellow Mud Turtle, Loggerhead Shrike, Short-eared Owl, and Northern Harrier."[27] The 1000 turbine Chokecherry and Sierra Madre wind

23. BUREAU OF LAND MGMT., DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED CHINA MOUNTAIN WIND PROJECT AND RESOURCE MANAGEMENT PLAN AMENDMENT S-3 (2011) [hereinafter CHINA MOUNTAIN WIND DEIS], *available at* http://www.blm.gov/pgdata/etc/medialib/blm/id/nepa/jarbidge_fo/china_mountain_wind0/china_mountain_wind/china_mountain_wind/volume_i.Par.6578.File.dat/3_Summary_508.pdf.

24. *See* LEDEC ET AL., *supra* note 9, at 22; *see also id.* at 23 (listing nine "Hypotheses for Bat Attraction to Wind Turbines").

25. *See Gone with the Wind Hearing*, *supra* note 5, at 61 (statement of Eric R. Glitzenstein, Meyer Glitzenstein & Crystal).

26. *See* Reed Elizabeth Loder, *Breath of Life: Ethical Wind Power and Wildlife*, 10 VT. J. ENVTL. L. 507, 510 (2009).

27. Green River Wind LLC, Whiteside County Endangered Species Consultation Program EcoCAT Database Review #1111192, p. 1 (Apr. 4, 2012) [hereinafter Green River Wind Review], *available at* http://www.scribd.com/doc/94313595/IDNR-Letter-On-Whiteside-Wind-Turbines.

farms to be located on private lands in southeastern Wyoming could harm pronghorn, elk, and mule deer by "direct habitat loss of seasonal ranges, behavioral avoidance or indirect habitat loss of seasonal ranges, disruption of migration routes, and increased levels of human disturbance that could lead to higher levels of vehicle collisions and poaching."[28] The same project could be deadly to black-footed ferrets, one of the most endangered animals in the United States. It would eliminate 283 acres of prairie dog habitat, which would deny the ferrets their preferred prey. It would also introduce fifteen miles of new roads, thus creating the potential for vehicle collisions with ferrets. Indeed, BLM acknowledged that its chosen alternative for the Chokecherry project "would have the highest direct impact to black-footed ferret habitat and greatest amount of road construction."[29]

Solar energy is harmful to biodiversity, too, though it harms different species in different ways than wind turbines. BLM found that "[h]abitat disturbance could result in major impacts on wildlife (e.g., a large loss of important habitat attributes such as crucial winter range or migration corridors) from the construction of a solar energy project."[30] A solar energy project could "establish edge habitat" that increase predation, modify the distribution and dispersal of wildlife, harm species that require large undisturbed areas, and "change local wildlife composition and abundance in such areas."[31] BLM concluded that

> solar energy development could result in areas that were once considered areas with a high probability of being used by wildlife becoming areas of low or no use . . . while other areas with a low probability of use could be used more frequently. This change might cause a shift of wildlife use to presumably less-suitable habitat.[32]

The desert tortoise is the most vulnerable animal to solar development in the desert southwest. Desert tortoises live in a variety of desert habitats, ranging from scrubland at lower elevations to juniper woodlands at higher elevations. The Mojave

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28. BUREAU OF LAND MGMT., 2 CHOKECHERRY & SIERRA MADRE WIND ENERGY PROJECT: FINAL ENVIRONMENTAL IMPACT STATEMENT 4.14-11 (2012), *available at* http://www.blm.gov/pgdata/etc/medialib/blm/wy/information/NEPA/rfodocs/chokecherry/feis.Par.67613.File.dat/CCSM_Vol_ll-Ch4e.pdf.

29. *Id.* at 4.15-30.

30. BUREAU OF LAND MGMT., SOLAR ENERGY DEVELOPMENT DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT 5-74 (2010) [hereinafter BLM SOLAR DPEIS], *available at* http://solareis.anl.gov/documents/dpeis/index.cfm#vol1.

31. *Id.*

32. *Id.* at 5-81.

population of the species was listed as threatened under the ESA in 1990 because of "permanent habitat loss across large areas" caused by urbanization and "proliferation of roads and highways, off-highway vehicle activity, poor grazing management, and habitat invasion by non-native invasive species."[33] Their low reproductive rates and the high mortality among the young "make recovery of the species difficult."[34] The "potential long-term effects of large-scale energy development fragmenting or isolating desert tortoise conservation areas and cutting off gene flow between these areas [had] not been evaluated" at the time that the FWS revised the recovery plan for the tortoises in 2011,[35] but subsequent studies of proposed solar projects have suggested that such habitat fragmentation is among the many threats that solar development presents to tortoises. For example, BLM found that one solar project in southeastern California could harm desert tortoises by trapping them in open trenches and pipes, running over them with construction equipment, entombing them in their burrows, introducing pets and ravens that prey on tortoises, building roads that result in road kill, and crushing tortoises that seek shade under parked vehicles.[36]

Bighorn sheep are the other "'flagship' species" in the Mojave, and there is "significant conservation concern" that solar energy development will change the desert landscape in a way that compromises the ability of distinct populations of sheep to interact.[37] BLM lists bighorn sheep and desert tortoises along with elk, deer, pronghorn, cougars, and foxes as animals whose movements could be adversely affected by a solar energy facility within their habitat or migration routes.[38] The site of one proposed California solar project "could serve as an important movement corridor for bighorn sheep attempting to move from one mountain range to another during seasonal migration or dispersal."[39] The same project could affect a variety of other animals as

33. U.S. Fish & Wildlife Serv., Revised Recovery Plan for the Mojave Population of the Desert Tortoise (*Gopherus agassizii*) 15 (2011).

34. *Id.* at viii.

35. *Id.* at 16.

36. Bureau of Land Mgmt., Plan Amendment/Final EIS for the Blythe Solar Power Project 4.21-2 (2010) [hereinafter Blythe Solar Project EIS], *available at* http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/palmsprings/blythe_feis0.Par.91095.File.dat/Vol1_Blythe%20PA-FEIS_0cover-ch1_ch2.pdf.

37. Nat'l Parks Conservation Ass'n, Solar Energy, National Parks, and Landscape Protection in the Desert Southwest 16, 17 (2012).

38. *See* BLM Solar DPEIS, *supra* note 30, at 5-81.

39. Blythe Solar Project EIS, *supra* note 36, at 4.21-8.

well. American badgers and desert kit fox occur in the same area, and the solar project could harm them by

> permanent loss of occupied habitat; fragmentation and degradation of remaining habitat, loss of foraging grounds, death or injury of American badgers by crushing with heavy equipment or entombing them within a den; increased risk of road kill hazard, harassment, or injury from construction traffic. Indirect impacts include disturbance from increased noise and lighting; introduction and spread of weeds; increased risk of road kill from operations traffic.[40]

B. *Scenic Landscapes*

The most familiar objection to wind and solar energy facilities is that they are ugly and out of place. Many of the potential sites for wind or solar energy projects are vast, empty landscapes. These areas are sparsely populated, but the people who live and visit there treasure the natural views. Wind turbines work best on mountain ridges where they benefit from the most wind, but they are also most visible from those locations. For example, West Virginia's Representative Alan Mollohan testified that "[t]here is a huge environmental viewshed issue," citing a wind energy project that "consists of 44 turbines, each of which is about 340 feet high—in other words, 50 feet higher than the tip of the Capitol dome—and these turbines are spread out over 4,000 acres of mountain ridge."[41] Wind farms that feature dozens or hundreds of turbines and solar facilities that cover miles of land immediately become the most conspicuous feature of the landscape. Wind turbines are shiny, metallic, and tall; solar energy facilities are even shinier (blinding, sometimes), metallic, and spread over large swaths of land. The resulting "industrial landscape" is a common complaint.[42]

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40. *Id.*

41. *See Gone with the Wind Hearing*, *supra* note 5, at 10, 16.

42. *See* BLM SOLAR FPEIS, *supra* note 6, at 5-19 (acknowledging that "the construction and operation of utility-scale solar energy facilities would introduce major visual changes into non-industrialized landscapes"); BLM WIND FPEIS, *supra* note 6, at 5-92 (observing that "[t]he artificial appearance of wind turbines may have visually incongruous 'industrial' associations for some, particularly in a predominantly natural landscape"); Protest of Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States and Associated Proposed BLM Resource Management Plan Amendments 3 (Aug. 24, 2012) [hereinafter Western Lands Project Solar FPEIS Protest], *available at* http://westernlands.org/uploads/documents/FPEIS_Solar_Energy_Development_6_SW_States_+_RMP_Amendments_protest_FINAL.pdf (objecting to "converting public lands to industrial energy facto-

The visual impacts are worse when they occur near an especially scenic landscape. Numerous solar energy facilities are being built or proposed within the viewsheds of Death Valley National Park, Joshua Tree National Park, the Mojave National Preserve, and other National Park Service properties. The National Parks Conservation Association calculates that BLM could allow solar energy development on two million acres of land "that abut or are very proximate to the California desert national parks."[43] Other solar facilities are within sight of wilderness areas designed to provide the experience where "man himself is a visitor who does not remain."[44] Additionally, a proposed Oregon wind farm "would result in a major short- and long-term impact on visual resources."[45] In Illinois, a wind project to be located within one and one-quarter miles of a nature preserve would be "obtrusive on the consciousness of visitors" and deny the opportunity for "visualizing presettlement conditions."[46]

Some environmentalists see the same kind of shiny, metallic, commercial industrial structures that they fought so hard to keep out of the Mojave when they supported the California Desert Conservation Act (CDCA).[47] For other environmentalists, the presence of a green industry makes a difference. From that perspective, the sight of solar farms is the sight of environmental progress,[48] just as the sight of belching smokestacks was once a

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ries"); Protest of the Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States 4 (Aug. 27, 2012) [hereinafter Western Watersheds Solar FPEIS Protest], *available at* https://docs.google.com/a/nd.edu/viewer?a=v&pid=sites&srcid=d2VzdGVybndhdGVyc2hlZHMub3JnfHB1YmxpYy1kb2N1bWVudHN8Z3g6NmU2MWEzOGRlMWEwODc3ZA (protesting the "industrial scale development on and the whole-scale destruction of hundreds of square miles of public lands"); Judith Lewis, *High Noon: As the Climate Warms, Environmentalists Square Off over Big Solar's Claim to the Mojave Desert*, HIGH COUNTRY NEWS, May 11, 2009, at 6 (fearing that the desert will soon be transformed into "an industrialized renewable energy zone"); Sylvia White, *Towers Multiply, and Environment Is Gone with the Wind*, L.A. TIMES, Nov. 26, 1984, at C5 (complaining that wind turbines were industrializing the Altamont hills with "iron forests"); *Save Our Ridgelines*, VERMONTERS WITH VISION, http://www.vermonterswithvision.org/vwvpetition.html (last visited Mar. 12, 2013) (lamenting that "[i]ndustrial wind projects currently proposed in Vermont will transform more than 40 miles of mountain habitat into industrial construction sites").

43. NAT'L PARKS CONSERVATION ASS'N, *supra* note 37, at 78.

44. Wilderness Act, 16 U.S.C. § 1131 (2006).

45. CHINA MOUNTAIN WIND DEIS, *supra* note 23, at 4-369.

46. Green River Wind Review, *supra* note 27, at 17.

47. *See* John Copeland Nagle, *See the Mojave!*, 89 OR. L. REV. 1357, 1382 (2011).

48. On the symbolic importance of solar facilities, see 156 CONG. REC. E1248 (daily ed. June 30, 2010) (statement of Rep. John H. Hall of N.Y.)

sign of economic progress. There are even some people who describe solar farms as attractive.[49] Most observers, though, regard the sight of wind and solar farms as unnatural and unwanted intrusions on the landscape.

C. *Water*

Solar energy projects use a lot of water. Water is needed to control dust during construction, to wash equipment, to serve the work force, and for cooling the heated equipment. How much water depends on the technology employed, with some technologies imposing intensive water demands. The EPA was "particularly concerned" about the proposed use of wet-cooling for the Sonoran Solar Energy Project in Maricopa County, Arizona, because of "the extraction of nearly 1 billion gallons of groundwater annually to support it."[50] These water needs are especially troublesome because most large solar projects are located in the desert, where water is already at a premium. Another one of the ironies resulting from reliance on renewable energy to serve environmental goals is that while water is required to support the renewable energy facilities that can mitigate climate change, "the entire western United States is facing serious water shortages under all climate change scenarios."[51]

(explaining that solar panels "create awareness about renewable energy, sending a message that renewable energy is not some far away idealist dream"); *Prepared Remarks of Energy Secretary Samuel Bodman at the Inauguration of the Headquarters' Solar Energy System*, FED. NEWS SERV., Sept. 9, 2008 (stating that the installation of a solar array "is a symbol of America's commitment to using the best available new technologies to confront the energy challenges we face today and will face tomorrow"). *But see* 156 CONG. REC. S4900 (daily ed. June 15, 2010) (statement of Sen. Alexander) (arguing that the cost of solar energy means that we should not "pretend that somehow solar panels have anything to do with cleaning up the oil spill or reducing oil consumption").

49. *See* BLM SOLAR FPEIS, *supra* note 6, at 137 (suggesting that "some viewers might find some utility-scale solar energy facilities to be attractive or interesting to view because of the facilities' strong visual unity and simplicity or other factors, such as striking and novel light effects from reflections from ambient dust or the polished solar receiver surfaces").

50. Letter from Kathleen M. Goforth, Manager, Environmental Review Office (CED-2), to Joe Incardine, BLM Phx. Dist. Office, Sonoran Solar Energy Project 2 (May 25, 2010), *available at* http://yosemite.epa.gov/oeca/webeis.nsf/(PDFView)/20100108/$file/20100108.PDF?OpenElement. Two scholars have thus encouraged BLM to "have a heavy presumption against allowing wet-cooling technologies on public lands." Robert Glennon & Andrew M. Reeves, *Solar Energy's Cloudy Future*, 1 ARIZ. J. ENVTL. L. & POL'Y 91, 123 (2010).

51. *See* Western Watersheds Solar PEIS Protest, *supra* note 42, at 9.

D. *Noise*

Many neighbors of wind farms complain about the noise that they produce. Most wind energy developers insist that noise complaints are exaggerated, and the existing studies tend to agree with them. An acoustical study of a proposed New York wind farm concluded "that routine operation of the wind farm will produce average sound levels that are similar to the measured range of existing average ambient sound levels."[52] Nonetheless, BLM has acknowledged that the high-frequency noise produced by wind farms may be judged to be especially annoying, even though that noise dissipates quickly as one moves away from a turbine.[53] The amount of noise attributed to a wind farm depends "on the weather, atmospheric conditions, topography, and the size and design of the wind turbine."[54] One estimate suggests that the value of property located near a wind farm drops 20% to 30% because of the noise.[55] Such reports confirm that noise remains a real obstacle to public acceptance of wind farms despite the absence of objective acoustic data to support such concerns.

Noise is not much of a problem for most solar energy facilities. The solar energy equipment produces less noise than wind turbines, and solar farms tend to be located further away from residential areas where people are bothered by the noise. The EIS for one solar energy project to be located in the Mojave Desert in California thus reported that the closest scattered residences were nearly three miles away from the project site, and the existing noises already include traffic on Interstate 10, occasional off-road vehicle recreational use, and a nearby skeet and trap shooting club.[56]

E. *Cultural Resources*

The construction of a wind or solar energy facility may also compromise cultural resources. That is a particular problem for solar farms to be located in the desert southwest, where there are abundant reminders of ancient Native American cultures. The BLM's programmatic solar EIS acknowledged that "[s]ignificant

52. James D. Barnes, Acentech Inc., Acoustical Study of Proposed Stony Creek Wind Farm Orangeville, NY 14 (2010).

53. *See* BLM Wind FPEIS, *supra* note 6.

54. Righter, *supra* note 8, at 108.

55. *Id.* at 110.

56. *See* Bureau of Land Mgmt., McCoy Solar Energy Project: Proposed Plan Amendment and Final Environmental Impact Statement 3.12-4 (2012) [hereinafter McCoy Solar Project EIS].

cultural resources, including historic properties listed or eligible for listing on the [National Register of Historic Places], could be affected by utility-scale solar energy development regardless of the technology employed."[57] BLM also noted concerns about noise from solar energy facilities because "recent ethnographic studies confirmed that spiritual, religious, and medical practices and ceremonies are ongoing within the desert southwest and such uses could be adversely affected by a change in the acoustic environment."[58] One solar project in southeastern California could adversely affect at least 180 historic sites and thirty prehistoric sites, as well as additional sites that could be discovered during construction.[59] Another California solar project contains 114 archaeological sites, including nine that are eligible for the National Register of Historic Places.[60]

Wind farms can interfere with cultural resources, too. BLM's programmatic EIS for wind energy noted that digging, grading, vehicle traffic, pedestrians, and erosion could all disturb or destroy significant cultural resources.[61] Additionally, "[v]isual impacts on significant cultural resources, such as sacred landscapes, historic trails, and viewsheds from other types of historic properties (e.g., homes and bridges) may also occur."[62] One Hawaiian wind farm has its own Burial Treatment Plan designed to care for ancestral remains found in the project area.[63]

F. *Other Harms*

A number of other environmental harms could result from the development of wind and solar energy facilities. "Solar energy development would preclude other land uses within the project footprint and could alter the character of largely rural areas."[64] A reduced amount of rangeland could be available for grazing. Recreational uses would be limited. "Impacts on biological soil crusts would be long term and possibly irreversible."[65] Mineral development "would generally be an incompatible

57. BLM SOLAR DPEIS, *supra* note 30, at 5-218.
58. BLM SOLAR FPEIS, *supra* note 6, at 5-21.
59. BLYTHE SOLAR PROJECT EIS, *supra* note 36, at 4.4-3.
60. MCCOY SOLAR PROJECT EIS, *supra* note 56, at 3.5-27–3.5-28.
61. BLM WIND FPEIS, *supra* note 6, at 5-99.
62. *Id.*
63. CNTY. OF MAUI DEP'T OF PLANNING, DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR THE AUWAHI WIND FARM 3-98 (Feb. 2011), *available at* http://gen.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Maui/2010s/2011-03-08-MA-DEIS-Auwahi-Wind-Farm-Vol1.pdf.
64. BLM SOLAR FPEIS, *supra* note 6, at ES-18.
65. *Id.* at ES-20.

use."[66] Air quality would suffer during construction because of dust and vehicle emissions.

Of course, these harms often pale in comparison to the environmental harms associated with other forms of energy production. And many of the environmental harms of renewable energy can be mitigated, with extensive efforts underway to achieve such mitigation.[67] Wind turbines and solar farms are less harmful when they are located away from scenic views or unique biodiversity, or the size and technology of a particular project may be adjusted to minimize the environmental impacts at particular places. There are no green harms from green projects to the extent that such mitigation succeeds. But some harms cannot be mitigated, and we may not be willing to bear the costs of mitigating other harms, so the law must tell us how to reconcile green harms and green benefits.

II. Environmental Litigation Against Renewable Energy Projects

There is a central irony in the ongoing disputes concerning wind and solar energy projects. Renewable energy is most touted for its environmental benefits, yet environmental laws pose one of the most significant obstacles to developing renewable energy. Nearly every large wind and solar energy project is facing litigation or administrative appeals that would derail the project. Such litigation accompanied one of the earliest wind farms at Altamont Pass in California, which killed thousands of birds, and it has persisted through the lengthy debate concerning the proposed Cape Wind project off the shore of Nantucket.[68] The litany of environmental laws that are alleged to be violated by these projects includes the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Federal Land Policy Management Act (FLPMA), the Clean Water Act (CWA), the Bald and Golden Eagle Protection Act (BGEPA), the National Historic Preservation Act (NHPA), the Safe Drinking Water Act (SDWA), the Native American Graves Protection and Repatriation Act (NAGPRA), and numerous state and local laws. Most of the litigants insist that they support renewable energy in princi-

66. *Id.*

67. *See, e.g.*, BLM Wind FPEIS, *supra* note 6, at 5-75 to 5-85 (detailing mitigation measures).

68. *See* Ctr. for Biological Diversity, Inc. v. FPL Group, Inc., 83 Cal. Rptr. 3d. 588 (Cal. Ct. App. 2008) (holding that the Altamont Pass wind farm did not violate California's public trust doctrine); Alexandra B. Klass, *Renewable Energy and the Public Trust Doctrine*, 45 U.C. Davis L. Rev. 1021, 1053–57 (2012) (summarizing the Cape Wind litigation).

ple, but they object to the place in which a proposed project would be located.

This section considers the legal arguments that have been raised against some of the most recent wind and solar energy projects. The applicable laws vary depending on whether the project is located on federal or private land; whether there are local, state, or even federal laws that apply to a specific place; and whether the project is to produce wind or solar energy. Sixty lawsuits were filed against renewable energy projects between 2004 and 2012.[69] I review eight of them here.

A. *Calico Solar Project*

The Natural Resources Defense Council (NRDC) begins its federal complaint against the Calico solar project as follows:

> In late 2010, facing an end-of-year deadline under the American Recovery and Reinvestment Act, the U.S. Department of the Interior drove to approve the massive, utility-scale Calico Solar project on pristine lands in the Mojave Desert's Pisgah Valley. These lands provide prime habitat for the desert tortoise, which is threatened with extinction, the golden eagle, and many other rare and sensitive plant and animal species. Yet, to meet the deadline, the Department and its agencies pushed forward without fully considering the project's impacts on these species. The Bureau of Land Management's environmental review failed to consider realistic alternative sites off public land. The U.S. Fish and Wildlife Service rendered a Biological Opinion that relied heavily on a methodology known to grossly undercount desert tortoise populations and on mitigation measures that will kill many tortoises they are intended to save.[70]

The Calico solar project would be located in the Mojave Desert about forty miles east of Barstow, California. But the NRDC worries that the project will "destroy 4,613 acres of desert tortoise habitat" and "disrupt an area that provides a wildlife movement corridor and essential habitat connectivity . . . ."[71] Golden eagles have been seen near the project site, while the

69. *See Renewable Energy Project Challenges—Snapshot of the Litigation Landscape*, CLIENT ALERT NO. 1431 (Latham & Watkins), Nov. 15, 2012, at 1.

70. Complaint for Declaratory and Injunctive Relief ¶ 1, Natural Res. Def. Council v. Abbey, No. 2:2012cv02586 (C.D. Cal. Mar. 26, 2012). The Calico solar project is also one of six solar projects approved by BLM that are the subject of another federal lawsuit discussed *infra* note 138.

71. *Id.* ¶ 25.

project's "primary strategy" for saving endangered desert tortoises has been to relocate them elsewhere even though the NRDC contends that such efforts "have had a very low success rate."[72]

The NRDC's complaint alleges numerous violations of the ESA. It first claims that the biological opinion prepared by the FWS for the project failed to "rely on the 'best scientific and commercial data available' regarding the presence of desert tortoises on the Calico Solar project site and in translocation and control areas and the impacts of translocation on desert tortoise."[73] Nor, claims the NRDC, did the Service "adequately evaluate the impacts to desert tortoises from (i) infectious diseases as a result of translocation; (ii) partial displacement of desert tortoise home ranges; (iii) an increase in human-subsidized tortoise predators such as coyotes and ravens as a result of the project; and (iv) the spread of invasive, non-native vegetation and wildfire facilitated by the project."[74] The NRDC also faults the proposed mitigation measures, the failure to adequately evaluate the expected effects of climate change on the project, and the failure to "adequately evaluate the impacts of the Calico Solar project in the context of the cumulative effects of utility-scale solar development throughout the range of the Mojave population of desert tortoise."[75]

The NRDC further alleges that the project violates several other environmental laws. The complaint says that BLM's EIS "failed to evaluate a meaningful range of alternatives" and alternative sites, failed to "evaluate the effects of the Calico Solar project in combination with the widespread utility-scale solar development proposed in the California Desert," failed to take the required "hard look" at the proposed mitigation measures, and failed to evaluate the effect of the project on golden eagles and on habitat connectivity for the desert tortoise.[76] The NRDC also contends that the project violates the Eagle Protection Act because the developer did not obtain a permit to "take" golden eagles even though the government admitted that it did not know the extent to which the project would result in such takings of eagles.[77] And NRDC says that BLM failed to "explain how its actions were consistent with the biological goals and objectives of the Bureau's California Desert Conservation Area Plan and did not adequately explain how those actions complied with (and did

72. *Id.* ¶ 54.
73. *Id.* ¶ 101.
74. *Id.* ¶ 107.
75. *Id.* ¶ 105.
76. *Id.* ¶¶ 121–26.
77. *Id.* ¶ 139.

not satisfy) FLPMA's directive to 'prevent unnecessary or undue degradation of the lands.'"[78]

The NRDC insists that it reached the decision to sue reluctantly. "We tried our very, very hardest to convince the company that they should relocate the project and to convince BLM in particular that it should look at other alternative sites. . . . At the end of the day, they would not even consider relocating the project."[79] Instead, "[w]e drew a line in the sand and the Calico solar project crossed it."[80]

B. *Constellation Wind Project*

The Maryland Public Service Commission approved the construction of twenty-eight wind turbines along eight miles of the ridgeline of Backbone Mountain in Garrett County. Save Western Maryland, the Maryland Conservation Council, and two Maryland residents sued the project developer alleging that the operation of the wind turbine would kill endangered Indiana bats in violation of section 10 of the ESA. The plaintiffs observed that "female Indiana bats migrate long distances of up to approximately 360 miles, often migrating over and across mountain ridgetops," and that "Indiana bats frequently select ridgetops for spring and summer habitat because these areas provide an ideal setting for their foraging patterns."[81] They then asserted there was "a robust population" of Indiana bats within thirteen miles of the project site, and that the developer's own acoustical surveys had detected Indiana bats nearby.[82] The project would take bats in violation of the ESA because "wind power poses a grave threat to Indiana bats because of the likelihood of death and injury to members of the species both in terms of turbine collisions and barotraumas—a fatal condition caused by passage through low-pressure zones created by movement of huge wind turbine blades in which the lungs of bats hemorrhage and lead to almost instant death."[83] They added that the construction of the tur-

78. *Id.* ¶ 150 (quoting 43 U.S.C. § 1732(b)).

79. See Phil Taylor, Lawsuit Targets S. Calif. Project over Threats to Wildlife, Habitat, Greenwire, Mar. 27, 2012 (quoting Johanna Wald, NRDC director of Western renewable energy projects).

80. Press Release, Natural Res. Def. Council, Wrong Place: Groups Sue Solar Project to Protect Imperiled Wildlife & Wild Lands (Mar. 26, 2012), http://www.nrdc.org/media/2012/120326a.asp (quoting Johanna Wald, senior NRDC staff attorney).

81. Complaint for Declaratory and Injunctive Relief ¶ 24, Save Western Maryland v. Constellation Green Energy, LLC, No. 1:10-cv-03565-RDB (S.D. Md. Feb. 3, 2011).

82. *Id.* ¶¶ 27, 38.

83. *Id.* ¶ 30.

bines, roads, and associated infrastructure would disrupt the bats' breeding, feeding, and sheltering in the area, and that the bats would be attracted to the turbines by the corridors cleared in the forest.[84]

C. *Echanis Wind Energy Project*

This wind project consists of up to sixty turbines located on a private inholding within the Steens Mountain Wilderness Area in southeastern Oregon. BLM permitted a transmission line to cross twelve miles of its lands in order to connect the wind turbines to the electric power grid. The Portland Audubon Society and Oregon Natural Desert Association allege that BLM's approval of the transmission lines violates NEPA, FLPMA, and the Steens Act. They describe Steens Mountain as "one of the crown jewels of the National Landscape Conservation System and a unique ecological treasure which Congress has protected from commercial and industrial development through the Steens Mountain Cooperative Management and Protection Act of 2000 ("Steens Act")."[85] The wind farm, they allege, would "industrialize a remarkable landscape preserved by Congress for native wildlife and traditional land uses."[86] It would also "reach as high as the Statue of Liberty and [its] lights will mar one of the West's darkest night skies, . . . marring iconic wildland vistas . . . and degrading the experience of recreational visitors as well as wilderness values."[87] The plaintiffs allege that BLM violated NEPA by considering the environmental impacts of the transmission lines but not the wind turbines themselves. The EIS, they claim, failed to adequately consider the impacts of the project on sage grouse, peregrine falcons, and other wildlife. The plaintiffs also assert that the EIS "was prepared by consultants for the project proponent and which presents a one-sided and incomplete portrait of the proposed project and its likely adverse environmental impacts."[88]

The plaintiffs also accuse the government of "selectively rel[ying]" on agency "policies seeking to promote renewable energy on public lands" rather than heeding the dictates of the Steens Act and FLPMA.[89] The Steens Act, the plaintiffs explain, "adopted a suite of special management designations to protect

84. *Id.* ¶ 32.

85. Complaint ¶ 1, Oregon Natural Desert Ass'n v. Salazar, No. 3:12-cv-596-___ (D. Or. Apr. 5, 2012).

86. *Id.* ¶ 4.

87. *Id.*

88. *Id.* ¶ 2.

89. *Id.* ¶ 7.

the ecological integrity and outstanding natural resources of the Steens Mountain area," including the establishment of a 170,000-acre wilderness area and the designation of 500,000 acres as the Steens Mountain Cooperative Protection and Management Area (CMPA).[90] The Steens Act requires that the CMPA be managed "in a manner that . . . ensures the conservation, protection, and improved management of the ecological, social, and economic environment of the [CMPA], including geological, biological, wildlife, riparian, and scenic resources, North American Indian tribal, cultural, and archeological resource sites, and additional cultural and historic sites."[91] The Act also provides that "[d]evelopment on public and private lands within the [CMPA] . . . which is different from the current character and uses of the lands is inconsistent with the purposes of this subchapter."[92]

D. *Ivanpah Solar Project*

The Ivanpah solar project is located on BLM land in California just across the Nevada border about forty-five miles southwest of Las Vegas. The site is both near a casino complex and within sight of the Mojave National Preserve, thus eliciting conflicting views regarding its impact on the desert landscape.[93] The project is also located five miles away from an area that has been designated as critical habitat for the desert tortoise under the ESA. The FWS estimated that the project would encounter thirty-eight tortoises, so further biological consultation became necessary when the project displaced forty-nine tortoises during the first third of its construction. The revised biological opinion lists a number of protective measures that the developer must follow to avoid harming tortoises, including removing trash and road-kill to avoid attracting ravens, installing extensive perimeter fencing to keep tortoises away from the project's operations, and acquiring up to 3582 acres of land to compensate for the lost tortoise habitat.[94]

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90. *Id.* ¶ 43.

91. 16 U.S.C. § 460nnn-21(a)(1) (2006).

92. 16 U.S.C. § 460nnn-42(a) (2006).

93. *See* Nagle, *supra* note 47, at 1399–400 (reporting the contrasting impressions of the impact of the Ivanpah project on scenic values).

94. *See* U.S. FISH & WILDLIFE SERV., U.S. DEP'T OF THE INTERIOR, BIOLOGICAL OPINION ON BRIGHTSOURCE ENERGY'S IVANPAH SOLAR ELECTRIC GENERATING SYSTEM PROJECT (2011), *available at* http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/needles/lands_solar.Par.71302.File.dat/ISEGS_Reinitiation,%20Final%20BO.pdf.

These efforts were not enough for Western Watersheds Project, a conservation group whose "mission is to protect and restore western watersheds and wildlife."[95] Western Watersheds faulted BLM for violating the ESA, NEPA, and FLPMA in approving the Ivanpah project. Western Watersheds charged that the Ivanpah project received an "unduly hasty initial review" as a result of "an ill-conceived rush to accommodate massive renewable energy projects vying for multi-billion dollar federal tax credits originally due to expire on December 31, 2010."[96] That rush resulted in a flawed EIS that improperly relied on the developer's purposes instead of BLM's, failed to analyze alternative sites such as the Ivanpah Dry Lake bed or private land, excluded consideration of connected projects, and relied "on yet-to-be-developed mitigation measures to mitigate the Project's impacts."[97] The complaint's ESA allegations characterized the biological opinion on the project's impact on the desert tortoise as "legally deficient," and they claimed that the BLM wrongly failed "to reinitiate consultation, as required, when impacts on endangered species proved to be greater than anticipated."[98] The alleged FLPMA violations cited regulations requiring reliance on multiple use and sustainable yield principles, use of a systematic interdisciplinary approach, and the weighing of "'long-term benefits to the public against short-term benefits.'"[99] In sum, according to Western Watershed's local director, "[n]o project can be considered clean or green when it involves destruction of habitat for a species listed under Endangered Species Act on this scale."[100] But the district court denied Western Watershed's motion for preliminary injunction, and the Ninth Circuit rejected Western Watershed's appeal of that decision.[101] The district court then granted BLM's motion for summary judgment on all issues.[102]

95. Complaint for Declaratory and Injunctive Relief ¶ 11, W. Watersheds Project v. Salazar, (C.D. Cal. Jan. 12, 2011).

96. *Id.* ¶ 2.

97. *Id.* ¶ 33.

98. *Id.* ¶ 4.

99. *Id.* ¶ 79.

100. *Western Watershed Project Files Suit to Stop Ivanpah CSP Project*, SOLARSERVER (Jan. 23, 2011), http://www.solarserver.com/solarmagazine/solarnews/current/2011/kw03/western-watershed-project-files-suit-to-stop-ivanpah-csp-project.html (quoting Michael Connor, California Director for Western Watersheds Project).

101. W. Watersheds Project v. Salazar, No. CV 11-00492, 2011 U.S. Dist. LEXIS 151556 (C.D. Cal. Aug. 10, 2011), *aff'd*, 692 F.3d 921 (9th Cir. 2012).

102. W. Watersheds Project v. Salazar, No. CV 11-00492, 2012 U.S. Dist. LEXIS 169097 (C.D. Cal. Nov. 5, 2012).

E. *Kibby Mountain Wind Farm Expansion*

The Kibby Wind Power Project is located in northern Maine less than five miles from the Quebec border. It became fully operative in 2010 and is now the largest wind farm in New England.[103] In 2012, the U.S. Army Corps of Engineers approved the proposed construction of eleven additional wind turbines on Sisk Mountain just west of the existing project. The Corps exercised its authority under section 404 of the CWA to issue a permit to fill in eight-tenths of an acre of wetlands. The Corps noted that the developer "chose a site that is located wholly within the state's expedited permitting area, an area recognized as preferred for wind power development, and then modified the layout to avoid and minimize impacts to sensitive resources to the extent practicable."[104] The developer agreed to compensate for those impacts by paying $17,094.41 in lieu of engaging in other mitigation activities.[105] The Corps concluded that "[d]espite some short-term and minor environmental impacts noted in this document, the overall net impact is expected to be positive."[106]

The Maine Natural Resources Council, Maine Audubon, and other environmental organizations support the project, in part because the developer agreed "to achieve significant land conservation arrangements and to fund new wildlife studies."[107] But the Friends of the Boundary Mountains (FBM) oppose the expansion project. FBM's "mission is to safeguard the Boundary Mountains of Maine from industrial development and to conserve the area for wildlife habitat and the traditional uses of recreation and sustainable forestry."[108] It filed suit alleging that the expansion of the wind farm violates the CWA, the MBTA, and the BGEPA. The complaint faults the Corps for failing to adequately investigate the probable impact of the project on golden eagles and Bicknell's thrush as required by section 404 of the CWA.[109] Bicknell's thrush is a "species of concern" in Maine and

103. *See* Complaint for Injunctive and Declaratory Relief ¶ 8, Friends of the Boundary Mountains v. U.S. Army Corps of Eng'rs, No. 1:12-cv-00357 (D. Me. Nov. 26, 2012) [hereinafter FBM Complaint].

104. Memorandum for the Record, Permit Application NAE-2009-00892, Army Corps of Eng'rs, at 51 (September 27, 2012) [hereinafter Corps Permit Memorandum].

105. *Id.* at 53.

106. *Id.* at 78.

107. *Kibby Mountain Wind Project*, NATURAL RES. COUNCIL OF ME., http://www.nrcm.org/kibby_mountain.asp (last visited Mar. 12, 2013).

108. *See* FBM Complaint, *supra* note 103, ¶ 8.

109. *Id.* ¶ 27.

the bird is being evaluated for listing under the federal ESA.[110] FBM asserts that three of the proposed wind turbines are located in high value breeding habitat for Bicknell's thrush, yet the Corps neglected to ask the FWS to perform a biological assessment of the species.[111] FBM alleges that the project's effects on Bicknell's thrush would violate the MBTA both because they constitute a direct take of the bird and because they would cause "significant habitat loss and fragmentation in the only region where the species breeds."[112] The complaint also contends that the project violates the BGEPA because of its proximity to historic golden eagle nests and at least one recently sighted eagle.[113]

F. *North Sky River Wind Farm*

North Sky River is located in the southern Sierra Nevada Mountains of Kern County, California. The developer plans to build 100 turbines on private land, but BLM permitted access across federal lands. Three national environmental groups—the Sierra Club, the Center for Biological Diversity, and Defenders of Wildlife—allege that BLM's approvals violate the ESA and NEPA.[114]

The primary environmental harm associated with the project is its threat to biodiversity. It is located "in an ecologically sensitive landscape" that hosts endangered California condors and southwestern willow flycatchers, as well as golden eagles and numerous other migratory bird species.[115] Eight golden eagles have died at a nearby existing wind farm, while the infamous Altamont Pass wind farm has killed sixty-seven golden eagles in recent years. "Wind energy development," the complaint further asserts, "is an emerging and significant threat to the survival and recovery of" both California condors and southwestern willow flycatchers.[116] Butterbredt Springs—"a nationally recognized hotspot for migratory birds on public lands and Important Bird Area"—is less than one mile from the project site.[117]

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110. *See* Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List the Bicknell's Thrush (Catharus bicknelli) as Endangered or Threatened, 77 Fed. Reg. 48,944 (Aug. 15, 2012) (to be codified at 50 C.F.R. pt. 17). The FWS noted that Bicknell's thrush has demonstrated an ability to tolerate human activities such as ski resorts, so "[t]he species may adapt similarly to the construction of wind turbines." *Id.* at 48,941.

111. *See* FBM Complaint, *supra* note 103, ¶¶ 29–30.

112. *Id.* ¶ 38.

113. *Id.* ¶ 43.

114. *See* Sierra Club Complaint, *supra* note 17.

115. *Id.* ¶ 4.

116. *Id.* ¶ 31.

117. *Id.*

The complaint alleges that BLM should have prepared an EIS instead of issuing a finding of no significant impact (FONSI) under NEPA. BLM considered the environmental effects of the access road, transmission line, and fiber optic communication line, but not the wind farm itself. The complaint objects that the same narrow view of the project prompted BLM to improperly conclude that that project would have "no effect" on the birds protected by the ESA. The district court rejected all of those arguments, though, because it held that BLM properly focused on the road and electric lines and was not required to consider the environmental impacts of the wind turbines because they were located on private lands.[118]

G. *Ocotillo Wind Energy Facility*

The Pattern Energy Group originally proposed to build 155 wind turbines along 13,000 acres of BLM land in south central California near the small retirement community of Ocotillo along the Mexican border. During the environmental review process, the project was downsized to 112 wind turbines on more than 10,000 acres of BLM land. That did not satisfy the 400 residents of Ocotillo whose "sweeping desert views of five (5) mountain ranges, and star studded nights in a quiet, peaceful setting, far away from industry, and noise" would be replaced by

> a mammoth project proposal that would convert over 10,000 acres of public lands into an industrial wind energy facility . . . . Each proposed wind turbine stands 439 feet high, about the size of a forty-two story building, 239 feet taller than the Coronado-Bay Bridge, and 134 feet higher than the Statue of Liberty. . . . The rotor and fan blade assembly on each turbine extends 354 feet in diameter, about the length of a football field.[119]

The project has generated three lawsuits filed, collectively, by a local environmental group named Community Advocates for Renewable Energy Stewardship (CARES); the Desert Protective Council and a public service employees' union; and a local Indian tribe.[120] The allegations in these complaints detail a

118. *See* Sierra Club v. Kenna, No. 1:12-cv-1193, 2013 U.S. Dist. LEXIS 4743 (E.D. Cal. Jan. 11, 2013).

119. Complaint for Declaratory and Injunctive Relief ¶ 12, Comty. Advocates for Renewable Energy Stewardship v. U.S. Dep't of the Interior (S.D. Cal. June 19, 2012) [hereinafter CARES Complaint].

120. *See generally id.*; Complaint for Declaratory and Injunctive Relief, Desert Protective Council v. U.S. Dep't of the Interior (S.D. Cal. May 25, 2012) [hereinafter Desert Protective Council Complaint]; Complaint of Quechan Indian Tribe for Declaratory and Injunctive Relief, Quechan Tribe of the Fort

series of environmental harms that could result from building the wind energy facility there. The project is located in "essential habitat for the federally endangered Peninsular bighorn sheep," as evidenced by the area's former designation as critical habitat under the ESA, the project's bordering currently designated critical habitat, and recent sightings of bighorn in the area.[121] The project "appears to be located in an established migratory pathway . . . for the state-listed threatened Swainson's hawk," and the "site also contains habitat used by raptors and other birds including golden eagles and burrowing owls, bats, rare plants, and other species."[122]

The complaints also allege that the project will result in significant aesthetic interference to "the extraordinarily rare desert viewshed seen from the" Anza-Borrego State Park, which receives half a million visitors a year and is designated as a National Natural Landmark.[123] The closest wind turbine would be only a third of a mile from Anza-Borrego, and less than a half mile from the Jacumba Wilderness Area.[124] Additionally, the lands "contain hundreds of archaeological sites (containing tens of thousands of individual artifacts) eligible and potentially eligible for inclusion in the National Register of Historic Places," and "[t]he area of the Ocotillo Desert holds tremendous spiritual essence for the Quechan Tribe."[125]

These harms give rise to claims that BLM's approval of the project violates numerous federal, state, and local statutes. The NEPA claims fault BLM for an "inadequate, unstable and incomplete" description of the project and its environmental setting, the failure to perform or complete needed studies of threatened and endangered species, and the failure "to identify feasible or adequate mitigation measures."[126] The alleged FLPMA violations cited the failure to minimize damage to wildlife habitat and cultural resources. The wind turbines would also allegedly violate FLPMA's requirement that "the public lands be managed in a manner that will protect the quality of the . . . scenic . . . values . . . ."[127] BLM measured scenic values through Visual Resource Management (VRM) classifications, and the visual

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Yuma Indian Reservation v. U.S. Dep't of the Interior (S.D. Cal. May 14, 2012) [hereinafter Quechan Tribe Complaint].

121. Desert Protective Council Complaint, *supra* note 120, ¶ 4.
122. *Id.* ¶ 45.
123. *Id.* ¶ 112.
124. CARES Complaint, *supra* note 119, ¶ 21.
125. Quechan Tribe Complaint, *supra* note 120, ¶ 5.
126. CARES Complaint, *supra* note 119, ¶ 5.
127. Quechan Tribe Complaint, *supra* note 120, ¶ 114.

resources analysis for the Octotillo project found that it "would result in the introduction of visually prominent built structures into a landscape generally lacking similar built features of industrial or technological character.[128] Thus, the complaint contends that "[a]pproving a Proposed Project that is not consistent with binding VRM objectives violates FLPMA and is prohibited."[129] Additionally, the complaints recite violations of the Bald and Golden Eagle Protection Act (BGEPA) (for failing to require the developer to either require a permit or to show that no eagles will be taken), the wetlands provisions of section 404 of the Clean Water Act (because the Army Corps of Engineers never issued a section 404 permit for the project even though the Corps acknowledged that the alluvial drainage fan encompassed the entire project site), the Safe Drinking Water Act (because the Ocotillo area has been designated as a protected sole-source aquifer), the environmental justice executive order (because the project "will disproportionately affect the low-income populations in Nomirage [sic], Coyote Wells, and Ocotillo"), California's Environmental Quality Act (based on the inadequacy of the EIS), and Imperial County's height and noise restrictions.[130] None of these claims has succeeded in court so far, though the claims have not all been decided.[131]

H. *Open View Solar Farm*

The proponents of the Open View Solar Farm proclaim that their project "will integrate the renewable energy generation with sustainable farming to create a truly holistic farm that will help meet the energy and food needs of the local community."[132] But not everyone in New Haven, Vermont believed that solar

128. *Id.* ¶ 127.

129. *Id.* ¶ 130.

130. CARES Complaint, *supra* note 119, ¶¶ 81, 95, 105.

131. *See* Quechan Tribe of the Fort Yuma Reservation v. U.S. Dep't of the Interior, No. 12cv1167, 2013 U.S. Dist. LEXIS 27069 (S.D. Cal. Feb. 27, 2013) (granting summary judgment to the federal government on the FLPMA, NHPA, NEPA, and NAGPRA claims); Desert Protective Council v. U.S. Dep't of the Interior, No. 12cv1281, 2013 U.S. Dist. LEXIS 26993 (S.D. Cal. Feb. 27, 2013) (granting summary judgment to the federal government on the NEPA and FLPMA claims); Cmty. Advocates for Renewable Energy Stewardship v. U.S. Dep't of the Interior, No. 12cv1499, 2012 U.S. Dist. LEXIS 138568 (S.D. Cal. Sept. 21, 2012) (dismissing the case because the plaintiffs lacked standing); Quechan Tribe of the Fort Yuma Indian Reservation v. U.S. Dep't of the Interior, No. 12cv1167, 2012 U.S. Dist. LEXIS 71248 (S.D. Cal. May 22, 2012) (denying the plaintiff's motion for a temporary restraining order and a preliminary injunction).

132. *Open View Solar Farm*, CROSS POLLINATION, http://iwmge.com/openview/index.html (last visited Mar. 12, 2013).

panels should be located on what the project's proponents described as "a beautiful 180 acre parcel of land that was once an operating dairy farm."[133] A local resident insisted that the project would violate state law by having an "undue adverse effect" on the aesthetics of the natural landscape, despite the Public Service Board's finding to the contrary.[134] The resident challenged that decision in state court, relying on "letters from various townspeople who oppose the Project as well as other sources describing the natural beauty of Vermont."[135] By contrast, an expert report concluded that the project was "not a dominant element in the landscape, but rather, would be seen as a land use consistent with the agricultural uses that dominate the region."[136] The Vermont Supreme Court held that the plaintiff's "sincere belief that the Project will diminish the beauty of the farmland nestled along Route 7 in New Haven provides no basis to disturb the Board's decision."[137]

I. *Six Solar Energy Projects*

An organization dedicated to the preservation of sacred Native American sites filed a lawsuit alleging that BLM violated NEPA, FLPMA, NHPA, and NAGPRA by approving six distinct solar energy projects to be located on BLM lands.[138] Two of those projects—Ivanpah and Calico—are described above. The other four are the Imperial Valley Solar Project, the Genesis Solar Energy Project, the Chevron Energy Solutions Lucerne Valley Solar Project, and the Blythe Solar Power Project.[139] The factual allegations in the complaint are not as detailed as in the other cases, but the legal claims are straightforward. The members of La Cuna assert that they "attach religious and cultural significance" to the land that would be affected by the solar projects, yet BLM failed to consult with La Cuna about those effects as required by the National Historic Preservation Act.[140] They further contend that BLM violated NEPA by failing to pre-

133. *Id.*

134. *In re* Petition of Cross Pollination, 47 A.3d 1285, 1287–88 (Vt. 2012) (quoting 30 V.S.A. § 248(b)(5)).

135. *Id.* at 1288.

136. *Id.* at 1289.

137. *Id.*

138. Complaint, La Cuna de Aztlan Sacred Sites Prot. Circle Advisory Comm. v. U.S. Dep't of the Interior, No 10-CV-2664-WQH-WVG (S.D. Cal. Dec. 27, 2010).

139. *See id.* ¶ 6.

140. *Id.* ¶ 44 (allegations regarding the Genesis solar project); ¶ 75 (Imperial solar project); ¶ 105 (Chevron solar project); *see also* National Historic Preservation Act § 101(d)(6)(B), 16 U.S.C. § 470a (2006) (requiring BLM

pare an EIS for the Genesis solar project and by failing to prepare a programmatic EIS for all of the projects.[141] They allege that BLM violated FLPMA by failing to comply with the California Desert Conservation Act plan and by failing to prevent unnecessary degradation of public lands.[142] And they allege that BLM violated NAGPRA by authorizing the removal of Native American cultural items without complying with the statute's procedures.[143]

To summarize, the complaints discussed above alleged the following violations of environmental law:

	NEPA	ESA	FLPMA	CWA §404	BGEPA	NHPA	NAGPRA	State Law	Local Law
Calico Solar		X	X		X			X	
Constellation Wind		X							
Echanis Wind	X		X						X
Ivanpah Solar	X	X	X						
Kibby Mountain Wind				X	X				
North Sky River Wind	X	X							
Ocotillo Wind	X		X	X	X			X	X
Open View Solar								X	
Six Solar Projects	X		X			X	X		

III. Environmental Law's Responses to the Green Harms of Green Projects

The laws alleged to be violated by renewable energy facilities show that environmental law provides three contrasting responses to the green harms of green projects. First, the law may allow the benefit regardless of the green harm. Second, the law may prohibit the green harm regardless of the benefit. Third, the law may allow a balancing of the benefits and the harms. I analyze each of these approaches in this section.

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to "consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance" to certain federal lands).

141. *Id.* ¶¶ 51, 58 (Genesis solar project); ¶¶ 81, 87 (Imperial solar project); ¶¶ 112, 118 (Chevron solar project); ¶ 165 (Blythe solar project).

142. *Id.* ¶ 65 (Genesis solar project); ¶ 95 (Imperial solar project); ¶ 125 (Chevron solar project); ¶¶ 172, 178 (Blythe solar project).

143. *Id.* ¶ 70 (Genesis solar project); ¶ 100 (Imperial solar project); ¶ 130 (Chevron solar project); ¶ 185 (Blythe solar project).

The case for renewable energy centers on its green credentials, but that is not the only value of renewable energy. As President Obama observed, renewable energy also benefits "our economic recovery, our security, and our long-term prosperity."[144] All of these benefits should be considered when deciding whether to approve a green project despite its green harms. At the same time, though, all of the benefits of other projects—green or not—should be considered, too. If a green project should be permitted despite its green harms, then any project should receive the same treatment. The proper calculation considers all of the harms and benefits of a project, not just the green ones.

A. *Green Benefits Trump Green Harms*

One strategy is for the law to insist that the benefit of green projects trumps any environmental harm that they cause. There are occasional instances in which environmental law takes this approach. Pollution regulations focus on cleaning one environment even at the expense of another. For example, efforts to reduce air pollution may lead to increased disposal of wastes in the water, and vice versa. CERCLA prioritizes the benefit of cleaning up a contaminated site by exempting government cleanup activities from liability even if they spread contamination somewhere else.[145] Environmentalists are eager to remove dams in order to restore a more natural ecosystem even though removing a dam can cause some short-term (and perhaps long-term) environmental harm as well.[146] The ESA supports actions that favor one species even at the expense of another. For example, the FWS is considering the removal of barred owls from forests in the Pacific northwest where they are outcompeting endangered northern spotted owls, and federal agencies have adjusted the flow of water in the Everglades to benefit the endangered kite (which prefers water A) even though that management regime harms the endangered sparrow (which dislikes water A).[147]

144. Proclamation No. 8431, 74 Fed. Reg. at 51,735 (Oct. 2, 2009).

145. *See* FMC Corp. v. U.S. Dep't of Commerce, 29 F.3d 833, 839 (3d Cir. 1994) (en banc).

146. *See, e.g.* NAT'L PARK SERV., ELWHA RIVER ECOSYSTEM RESTORATION FINAL ENVIRONMENTAL IMPACT STATEMENT 1 (1995), *available at* http://www.nps.gov/olym/naturescience/upload/ElwhaFinalEIS1.pdf (acknowledging the short-term environmental impacts of removing two dams).

147. *See* Miccosukee Tribe of Indians v. United States, 566 F.3d 1257 (11th Cir. 2009) (kite vs. sparrow); U.S. FISH & WILDLIFE SERV., EXPERIMENTAL REMOVAL OF BARRED OWLS TO BENEFIT THREATENED NORTHERN SPOTTED OWLS: DRAFT ENVIRONMENTAL IMPACT STATEMENT (2012), http://www.fws.gov/

Proponents of wind and solar energy projects sometimes embrace this approach of pursuing green benefits even at the expense of green harms. The renewable energy industry often complains about the dampening effect that environmental regulations have on the spread of green energy.[148] The law has taken notice of such complaints. There are numerous state and local laws that exempt such projects from otherwise applicable environmental regulations.[149] California recently amended the California Environmental Quality Act to deny local jurisdictions the authority to regulate the siting of wind and solar energy facilities.[150] The Washington state legislature empowered the governor to override any local decisions to restrict such facilities.[151] One commentator has proposed that wind projects should be exempt from state law nuisance claims.[152] At the federal level, legislation was introduced in Congress in 2009 that would have exempted solar projects proposed on BLM lands from NEPA review.[153] And several academic commentators have recommended that wind and solar projects should not be subject to the

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oregonfwo/Species/Data/NorthernSpottedOwl/BarredOwl/Documents/Draft EIS.ExpRemoval2.20.12.pdf.

148. *See, e.g.*, *Roadblocks to Wind and Solar Energy Hearing*, *supra* note 3, at 12 (statement of Susan Reilly, President & CEO, Renewable Energy Systems Americas, Inc.) (citing market uncertainty and regulatory uncertainty as "the number one obstacle our industry faces" and describing the FWS draft eagle conservation plan guidance as "a major obstacle"); *id.* at 40 (statement of Rhone Resch, President & CEO, Solar Energy Industries Ass'n) (worrying that FWS has "insufficient staff resources" to process permit applications); Ruhl, *supra* note 2, at 1774 (noting that "the FWS has received pressure from some interests to ease off" the enforcement of the ESA against wind farms).

149. *See Gone with the Wind Hearing*, *supra* note 5, at 47 (statement of Donald Michael Fry, Director, Birds and Pesticides, American Bird Conservancy) (explaining that "[t]he State of Maryland has recently exempted wind projects from meaningful environmental review"); Sara C. Bronin, *Solar Rights*, 89 B.U. L. REV. 1217, 1244 (2009) (citing California, Indiana, New Mexico, Wisconsin, and Wyoming as states that "explicitly prohibit localities from passing ordinances (zoning or otherwise) that would inhibit the operation of solar collectors"); Troy A. Rule, *Renewable Energy and the Neighbors*, 2010 UTAH L. REV. 1223, 1238 (asserting that "[l]ocal height restrictions are perhaps the most common obstacle to small wind turbine installations").

150. *See* Louis Sahagun, *Solar Project in Desert Gets Boost from California Legislature*, L.A. TIMES, May 11, 2012, http://articles.latimes.com/2012/may/11/local/la-me-solar-calico-20120511.

151. *See* Residents Opposed to Kittitas Turbines v. State Energy Facility Site Evaluation Council, 197 P.3d 1153 (Wash. 2008).

152. *See* Tyler Marandola, Note, *Promoting Wind Energy Development Through Antinuisance Legislation*, 84 TEMP. L. REV. 955 (2012).

153. *See* Emergency Solar Power Permit Act, H.R. 964, 111th Cong. (2009) (providing that "[n]o action relating to the development, deployment, or operation of a solar energy project on lands managed by the Bureau of Land

ordinary provisions of NEPA, the ESA, and state and local laws that would otherwise regulate the environmental harms of renewable energy production.[154]

The premise of these provisions is that environmental law should not interfere with green energy projects. That premise, in turn, often rests on the belief that climate change presents such an overwhelming threat that drastic actions are justified to avoid it. This is especially true with respect to environmental harm, where numerous writers insist that the catastrophic environmental changes that could be caused by climate change dwarf any harms that are caused by the efforts to prevent climate change. The fact that species such as Bicknell's thrush are threatened both by renewable energy development and by a changing climate illustrates the dilemma.[155] The application of the ESA to save species from going extinct becomes moot if climate change causes mass extinctions anyway. The argument, in short, claims that the ends of preventing climate change justify any means that are necessary to do so.

There are at least four problems with this claim. First, green energy and existing environmental protections may be able to coexist. Governmental officials, renewable energy producers, and environmental activists are all engaged in a concerted effort to achieve both goals. Many of those efforts are designed to steer wind and solar energy projects to sites where there are fewer rare animals, less scenic landscapes, more water, and generally fewer environmental values that would be impaired by energy development. BLM has embraced that approach by identifying zones in which solar energy facilities will receive expedited permitting

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Management shall be considered a major Federal action" for the purposes of NEPA's EIS requirement).

154. *See generally* Marandola, *supra* note 152, at 992–93; Laura Householder, *Have We All Gone Batty? The Need for a Better Balance Between the Conservation of Protected Species and the Development of Clean Renewable Energy*, 36 WM. & MARY ENVTL. L. & POL'Y REV. 807 (2012); David M. Driesen, *Exempting Climate Mitigation from OIRA Review*, REGBLOG (Jan. 24, 2013), https://www.law.upenn.edu/blogs/regblog/2013/01/24-driesen-climate-mitigation.html.

155. *See* Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List the Bicknell's Thrush (Catharus bicknelli) as Endangered or Threatened, 77 Fed. Reg. 48,934, 48,940 (proposed Aug. 15, 2012) (to be codified at 50 C.F.R. pt. 17) (finding that habitat modeling indicates that continued warming may lead to the complete loss of the species' breeding habitat within the United States by the end of the 21st century); *see also* Aylwin Pillai et al., *Reconciling Renewable Energy and the Local Impacts of Hydro-Electric Development*, 7 ENVTL. L. REV. 110, 123 (2005) (noting the irony that "if we fail to meet the targets for reducing greenhouse gas emissions, the habitats which we are trying to protect may be destroyed by climate change").

review.[156] Likewise, the FWS has developed voluntary siting guidelines that would provide favorable permitting treatment to wind farms that are located outside of bird habitats.[157] Or the environmental harms of renewable energy may be sufficiently mitigated so that they are no longer serious. So far it has not been demonstrated that the effort to have both green energy and other environmental values will fail. At least until that time, the argument for displacing environmental regulations in order to promote green energy is premature.

Second, environmental debates are familiar with claims of environmental apocalypse that have yet to materialize: overpopulation, exhaustion of natural resources, deadly pollution. These experiences illustrate the wages of crying wolf.[158] Climate change may be different—the wolf may really be here this time—but the credibility of the most apocalyptic claims is undermined by their previous false warnings. If climate change proves to be less catastrophic, then the argument for sacrificing treasured landscapes and entire species becomes less convincing.

Third, history teaches that our efforts to craft an energy policy for the future are often dramatically misplaced. Fewer than forty years have passed since a presidential commission reported on "acceptable ways to hasten the substitution of coal for oil," recommending that utilities and industry substitute coal for oil and natural gas and that "[i]mmediate action must be taken to develop a major, efficient synthetic fuels industry."[159] We would now regard such a program as an environmental disaster. So, too, the benefits of today's favored technology may later prove to be exaggerated. Bottled water and ethanol are just the latest products that were touted as environmentally friendly but which are now widely viewed as environmentally problematic. As one state court judge recently observed, "[a] wind farm today may be

156. *See Solar Energy Zones*, SOLAR ENERGY DEV. PROGRAMMATIC EIS INFO. CTR., http://solareis.anl.gov/sez/index.cfm (last visited Mar. 12, 2013).

157. *U.S. Fish and Wildlife Service Wind-Energy Guidelines*, U.S. FISH & WILDLIFE SERV. (Mar. 23, 2012), http://www.fws.gov/windenergy/docs/WEG_final.pdf.

158. *Cf.* John Hart Ely, *The Wages of Crying Wolf: A Comment on* Roe v. Wade, 82 YALE L.J. 920 (1973) (lamenting that the earlier complaints about substantive due process had been ignored in *Roe*).

159. PRESIDENT'S COMM'N ON COAL, ACCEPTABLE WAYS TO HASTEN THE SUBSTITUTION OF COAL FOR OIL: AN INTERIM REPORT OF THE PRESIDENT'S COMM'N ON COAL 7 (1979). *See generally* F. William Brownell, *Energy Independence-The Return to Coal, Constraints on Production and Utilization of Our Most Abundant National Energy Resource*, 11 ST. MARY'S L.J. 677 (1980).

a drilling rig or nuclear power plant tomorrow."[160] Or, as Alex Klass explained, "there is no guarantee these projects will achieve their goals and, more importantly, if implemented incorrectly, they can cause damage to conservation, recreation, wildlife and other values."[161]

Fourth, the claim that green projects deserve to be exempt from environmental regulations supports a narrative that such regulations are not really about environmental protection. Several members of Congress and conservative commentators have pointed toward the special treatment that wind and solar energy facilities have received as evidence that environmental law is only employed against disfavored parties. The application of the MBTA has provoked particular scorn. The FWS has asked wind energy producers to voluntarily comply with the MBTA, and it has not brought suit against any wind farm for any of the deaths that turbines have caused to migratory birds. By contrast, in 2010, the U.S. Attorney's office in North Dakota prosecuted several oil companies for allegedly violating the MBTA by allowing several ducks to die in a reserve pit of oil on their property. The court rejected that argument,[162] but the prosecution has been cited as demonstrating the application of a double standard regarding the obligation to follow environmental law.[163]

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160. Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Bd., 932 N.E.2d 787, 816 (Mass. 2010) (Marshall, C.J., concurring in part and dissenting in part).

161. Klass, *supra* note 68, at 1065.

162. *See* United States v. Brigham Oil & Gas, L.P., 840 F. Supp. 2d 1202 (D. N.D. 2012).

163. *See* Jonathan Adler, *Does Wind Get Off Easy?*, THE VOLOKH CONSPIRACY (Sept. 14, 2009, 6:35 AM), www.volokh.com/posts/1252758749.shtml (observing that "when it comes to killing protected birds, traditional energy companies face federal prosecution, while wind energy gets a pass"); Rob Port, *The Migratory Birds Treaty Act Needs to Go*, SAYANYTHINGBLOG.COM (Mar. 8, 2012, 10:34 AM), http://sayanythingblog.com/entry/the-migratory-birds-treaty-act-needs-to-go/ (asserting that "a double standard persists" because "[w]hile oil companies still run the risk of additional charges filed under the Migratory Birds Threat Act, wind power companies have a de facto exemption"); Amelia Hamilton, *Government Plays Favorites with Prosecutions,* FREEDOMWORKS (Dec. 18, 2012), http://www.freedomworks.org/blog/ameliahamilton/government-plays-favorites-with-prosecutions (using the application of the MBTA to note that "[t]o friends of freedom, it seems obvious that the government should not be choosing favorites. On the contrary, the role of government should be limited to ensuring that the playing field is level, and industries are not subjected to different rules based on government's understanding and support of what they do."); Perry, *supra* note 7; Robert Bryce, *Windmills Are Killing Our Birds: One Standard for Oil Companies, Another for Green Energy Sources*, WALL ST. J., Sept. 7, 2009, http://online.wsj.com/article/SB10001424052970203706604574376543308399048.html?KEY WORDS=bryce+wind+energy (complaining about "a double stan-

Senators Alexander and Vitter wrote Attorney General Holder in January 2012 asking about the apparent contradiction. They contrasted the unsuccessful prosecution of the North Dakota oil producer who allegedly killed the handful of ducks with the federal government's apparent approval of a proposed wind farm in southeastern Minnesota that could kill up to fifteen bald eagles each year,[164] Actually, that proposed Minnesota wind project is also expected to kill two more birds protected by the ESA, the piping plover and the whooping crane.[165] One year later, Senators Alexander and Vitter complained that they had not received a reply from the Attorney General. Senator Vitter worried that the Department of Justice was targeting companies to prosecute under the MBTA depending on the type of energy they produced rather than the number of birds that are killed.[166] He compared the "seven birds" killed by oil and gas operations with the 440,000 birds killed by wind energy.[167] Senator Alexander emphasized that "the rule of law is one of the fundamental principles of the American character. . . . It is the same law; it should be applied in the same way."[168] Such rule of law concerns counsel against allowing only green benefits to trump green harms, for they undermine the legitimacy of the law's efforts to prevent those green harms.

B. *Green Harms Trump Green Benefits*

The opposite strategy is that green harms should be prevented even at the cost of foregoing a green benefit. The Endan-

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dard" where "federal law-enforcement officials are turning a blind eye to the harm done by 'green' energy"). Environmental groups have objected to the differing treatment as well. *See* Press Release, Am. Bird Conservancy, Oil Cos. Prosecuted for Avian Deaths but Wind Cos. Kill Birds with Impunity (Sept. 7, 2011), http://www.abcbirds.org/newsandreports/releases/110907.html.

164. *See* Letter from Sen. David Vitter & Sen. Lamar Alexander to Att'y Gen. Eric Holder, Jan. 30, 2012, at 2, reprinted in 159 CONG. REC. S378 (daily ed. Jan. 30, 2013).

165. *See* Letter from Seventy-Six Environmental Organizations to Jeffrey Towner, FWS N.D. Field Office Supervisor, regarding scoping comments on Merricourt wind power project incidental take permit (Feb. 7, 2013), http://www.abcbirds.org/abcprograms/policy/collisions/pdf/Conservation_Coalition_Letter_Merri court_020713.pdf; *see also* Letter from William S. Eubanks II et al. to Jennifer Turnbow, KLJ, regarding scoping comments concerning the Merricourt wind power project in Dickey and McIntosh Counties, North Dakota, supra note 18 (arguing that the project would violate the MBTA, the ESA, and NEPA).

166. 159 CONG. REC. S378 (daily ed. Jan. 30, 2013) (statement of Sen. Vitter).

167. *Id.* (citing the FWS fiscal year 2013 budget justification for the 444,000 number).

168. *Id.* (statement of Sen. Alexander).

gered Species Act (ESA) is the most prominent example of this approach. The ESA is famously unforgiving. As the Supreme Court put it, the ESA represents a congressional determination that species should be preserved "whatever the cost."[169] Often that cost is not too high for environmentalists: an unwanted dam, road, or logging operation is blocked.[170] Indeed, the standard ESA case targets activities that environmental interests do not want in any event. Renewable energy is different, because there the ESA could block a project that has significant environmental benefits.

ESA claims have been raised in several of the lawsuits challenging wind and solar energy projects. So far, though, the only decision to hold that a renewable energy project violated the ESA occurred is the Beech Ridge wind farm in West Virginia. The court described the case as one "about bats, wind turbines, and two federal polices, one favoring protection of endangered species and the other encouraging development of renewable energy resources."[171] The first phase of the project was already operating and the next phase was under construction when a conservation group sued alleging that the wind farm was harming endangered Indiana bats. The district court examined the extensive factual record and concluded "by a preponderance of the evidence, that, like death and taxes, there is a virtual certainty that Indiana bats will be harmed, wounded, or killed imminently by the Beech Ridge Project, in violation of § 9 of the ESA, during the spring, summer, and fall."[172] The court thus enjoined the operation of the wind turbines that were under construction except during the winter period when the bats were hibernating.

> J.B. Ruhl describes the *Beech Ridge* court as making three important holdings that fundamentally affect the interaction of wind development with the ESA. First, the court held that plaintiffs may sue under the citizen suit provision of the ESA for future violations of the statute by

169. Tennessee Valley Auth. v. Hill, 431 U.S. 153, 154 (1978).

170. *See, e.g.*, Babbitt v. Sweet Home Chapter of Cmty. of Greater Or., 515 U.S. 687 (1995) (upholding the application of the ESA to protect that habitat of a species despite the objections of timber operators); Tennessee Valley Auth., 431 U.S. at 153 (stopping the construction of a dam in order to protect the endangered snail darter); Nat'l Wildlife Fed'n v. Coleman, 529 F.2d 359 (5th Cir. 1976) (blocking the construction of a highway through the habitat of the Mississippi sandhill crane).

171. Animal Welfare Inst. v. Beech Ridge Energy LLC, 675 F. Supp. 2d 540, 542 (D. Md. 2009).

172. *Id.* at 579. Section 9 of the ESA prohibits the "take" of a listed species, which the FWS has interpreted to include certain types of habitat modifications. See Sweet Home, 515 U.S. at 687 (upholding the FWS's interpretation).

> wind projects. The court then adopted a low evidentiary standard for establishing whether an activity is likely to harm a listed species and trigger the ESA. Under *Beech Ridge*, a plaintiff must only establish by a preponderance of evidence that an activity is likely to harm a listed species, and thus trigger the ESA. Third and finally, the Beech Ridge court determined that broad injunctive relief was appropriate, prohibiting all wind turbine operation pending compliance with the ESA. However, the court's stated intent was not to stop wind development but to funnel the projects through existing ESA procedures. . . . [T]he court noted that the policies [favoring endangered species and renewable energy] need not be in tension, and would not have been pitted against each other in Beech Ridge if the wind developer had utilized existing procedures under the ESA to assemble an HCP and apply for an [incidental take permit].[173]

The developers of the Beech Ridge project took the judge's advice and applied for an incidental take permit (ITP) from the FWS. Pursuant to section 10 of the ESA, the FWS may permit the taking of a listed species that "is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity," but only if the FWS finds that "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild" and if the applicant prepares a conservation plan that "will, to the maximum extent practicable, minimize and mitigate the impacts of such taking."[174] An application for an ITP typically includes the preparation of a habitat conservation plan (HCP), which may encompass a single project and a single species or multiple projects and species. For example, there are ongoing efforts to develop a Great Plains Wind Energy Habitat Conservation Plan, a Midwest Habitat Conservation Plan, and a Desert Renewable Energy Plan to enable renewable energy projects to comply with the ESA.[175]

The FWS issued a draft environmental assessment of the Beech Ridge wind energy project's HCP and ITP application in 2012.[176] The FWS's preferred alternative would issue a twenty-

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173. Ruhl, *supra* note 2, at 1786.

174. Endangered Species Act § 10(a), 16 U.S.C. § 1539(a) (2006). Section 10 further requires that the permit applicant ensure adequate funding for the plan, and it authorizes the FWS to mandate any other necessary or appropriate measures.

175. *See* Ruhl, *supra* note 2, at 1783–84 (describing each regional HCP).

176. *See* U.S. FISH & WILDLIFE SERV. W. VA. FIELD OFFICE, DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR PROPOSED ISSUANCE OF AN INCIDENTAL TAKE PER-

five-year ITP that would authorize the incidental take of Indiana bats and Virginia big-eared bats from the operation of 100 wind turbines. The agency estimates that the project could take seventy Indiana bats and fourteen Virginia big-eared bats during that period.[177] The developer would implement a research, monitoring and adaptive management plan, a curtailment plan "to reduce bat fatalities using best management practices supported by science,"[178] and an avian protection plan, all of which are designed to reduce the number of bats killed by the project. But some bat deaths would remain unavoidable, so the developer "proposes to establish a conservation fund to support conservation efforts for Indiana bats and Virginia big-eared bats based on objectives specified in the two species recovery plans."[179] The proposed HCP and ITP would not cover any bat species that are later listed under the ESA, including two bats whose status the FWS is already evaluating.[180]

The FWS proposal is unacceptable to a group of eight conservation organizations.[181] They want a full EIS, not a mere environmental assessment, because "of the many significant environmental impacts that will result from this project" and because "the sheer length of the Draft EA—228 pages including attachments—strongly indicates that an EIS is required here."[182] They regard the draft environmental assessment as inadequate because it considered—and rejected—only one alternative that

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MIT FOR THE BEECH RIDGE ENERGY WIND PROJECT HABITAT CONSERVATION PLAN, GREENBRIER AND NICHOLAS COUNTIES, WEST VIRGINIA (2012).

177. *Id.* at xviii.

178. *Id.*

179. *Id.* at xiv.

180. *Id.* at 109; *see also* Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List the Eastern Small-Footed Bat and the Northern Long-Eared Bat as Threatened or Endangered, 76 Fed. Reg. 38,095, 38,100 (June 29, 2011) (to be codified at 50 C.F.R. pt 17) (finding that "[w]ind power development may constitute a threat to the eastern small-footed bat and northern long-eared bat. Eastern small-footed bats typically roost in talus areas which occur on ridgetops. In the Appalachian Mountains, these areas coincide with past, present, and anticipated future wind power development, exposing the species to both habitat loss due to project construction and the risk of mortality due to turbine operation.").

181. Public Comments Concerning the Draft Environmental Assessment, Habitat Conservation Plan, and Application for an Incidental Take Permit by Criterion Powers Partners, LLC (FWS-R5-ES-2012-0031) (Oct. 1, 2012), *available at* http://www.regulations.gov/#!documentDetail;D=FWS-R5-ES-2012-0032-0019. The eight organizations are Save Western Maryland, American Bird Conservancy, Friends of Blackwater, Allegheny Highlands Alliance, Friends of Beautiful Pendleton County, Laurel Mountain Preservation Association, Allegheny Front Alliance, and West Virginia Highlands Conservancy. *Id.*

182. *Id.* at 10, 13.

"could measurably reduce bird mortality at this project site (i.e., turbine curtailment)."[183] They argue that the monitoring period is too short. They observe that the nation's fourth Indiana bat fatality caused by a wind farm just occurred less than forty miles from the site.[184] They insist that each migratory bird death will violate the MBTA, which "is particularly concerning because, in admitting that the company will kill up to 448 birds each year, neither Criterion nor the Service has proposed a single operating modification (*e.g.*, curtailment during peak bird migration between September 2 and October 6, or some portion thereof) as part of the proposed action that would result in any measurable reduction in bird mortality—which, as of 2011, was the highest per-turbine mortality rate ever estimated in North America."[185] And they are especially concerned because the proposed Beech Ridge ITP "has immense precedential value in terms of the legal and regulatory mandates that apply to wind companies seeking ITPs, considering that this project might very well be the first wind energy project in the continental United States to receive a permit of this kind."[186]

The Beech Ridge saga offers contrasting lessons for the relationship between green harms and green benefits under the ESA. The district court's decision suggests that the green harms of wind farms trump the green benefits that such facilities provide. As Ruhl put it, "wind power has no 'green pass' to get out of the ESA."[187] Yet Beech Ridge prompted West Virginia Representative Alan Mollohan to complain that "wind energy companies are enjoying a de facto exemption from the wildlife protection laws."[188] Mollohan made that complaint in 2007, before the district court decision. He was worried about the government's failure to enforce what the ESA requires. He insisted that "state permitting agencies cannot be counted upon to implement the federal wildlife protection laws," so "the job must be done by the Fish and Wildlife Service."[189] But it was not the FWS that eventually challenged the Beech Ridge project; it was the Animal Welfare Society. Other environmental organizations complain that the FWS is unwilling to enforce the ESA and related statutes such as the Migratory Bird Treaty Act and the

183. *Id.* at 7.
184. *See id.* at 8.
185. *Id.* at 16 (emphasis omitted).
186. *Id.* at 2.
187. Ruhl, *supra* note 2, at 1770.
188. *Gone with the Wind Hearing*, *supra* note 5, at 12 (statement of Rep. Mollohan).
189. *Id.*

Bald & Golden Eagle Protection Act against wind farms because the agency does not want to interfere with renewable energy production, even if the law demands it.[190] Indeed, the FWS continues to promote voluntary compliance by wind energy producers rather than enforcing the law as it would in other circumstances.[191]

Public land law contains further examples of green harms trumping green benefits. Renewable energy facilities may not be located within national parks no matter how windy, sunny, or otherwise attractive the land is for such facilities. Thus, for example, the solar boom in the Mojave Desert has to remain outside the extensive boundaries of the Mojave National Preserve, Death Valley National Park, and Joshua Tree National Park.[192] Similarly, the Wilderness Act prohibits the construction of commercial energy facilities—even green ones—within the nearly 110 million acres of wilderness areas.[193] The laws governing national parks and wilderness areas admit of no exceptions for green projects with green benefits.

NEPA offers another example of green harms trumping green benefits, albeit temporarily. NEPA requires a federal agency to prepare an environmental assessment—and if necessary, an EIS—before engaging in a project, no matter how environmentally beneficial the project appears to be. Indeed, NEPA's EIS process is designed to determine the green benefits and the green harms. While NEPA does not impose any substantive constraints, the study process can delay a project and even render it unviable if too much time passes or if the project is

190. *See id.* at 62 (statement of Eric R. Glitzenstein, Partner, Meyer Glitzenstein & Crystal) (asserting that "federal officials simply refuse to enforce [the MBTA and BGEPA] against even the most egregious violations in connection with wind turbines").

191. U.S. FISH & WILDLIFE SERV., *supra* note 157. This approach has divided the environmental community. *Compare id. with Gone with the Wind Hearing*, *supra* note 5, at 45 (statement of Donald Michael Fry, Director, Birds and Pesticides, American Bird Conservancy) (testifying that "[t]he Federal guidelines must be mandatory rather than voluntary when industry is provided ample evidence that they regard voluntary guidelines as unimportant and they have been ignored") *and Gone with the Wind Hearing*, *supra* note 5, at 11 (statement of Rep. Mollohan) (arguing that "wind-energy developers are not going to voluntarily take all the steps that are reasonably necessary for the protection of wildlife").

192. *See* Nagle, *supra* note 47, at 1397.

193. Wilderness Act, 16 U.S.C. § 1131–36 (2006); *see also Creation and Growth of the National Wilderness Preservation System*, WILDERNESS.NET (Dec. 27, 2012), http://www.wilderness.net/NWPS/ fastfacts (reporting that the National Wilderness Preservation System "now includes 757 areas (109,501,440 acres) in forty-four states and Puerto Rico").

especially urgent. Opponents of renewable energy projects have thus employed NEPA to try to block wind and solar energy facilities that they dislike. Once the required studies are complete, though, NEPA no longer blocks a project regardless of its green harms or green benefits.

It is surprising that some environmental advocates chafe at the instances in which the environmental law prevents green harms regardless of a project's green benefits. There are some environmental harms that we do not—and should not—tolerate, even at the cost of gaining a substantial environmental benefit. The extinction of a species and the desecration of an iconic landscape are the two most obvious green harms that the law will not permit. But there may be other green harms that are intolerable as well, and the law should seek to identify them as it confronts the new challenges posed by renewable energy.

C. *Weigh Green Harms and Green Benefits*

Environmental law's third approach is to balance the green harms and green benefits of an activity. This is the approach that many prefer. A report to Congress insisted that the development of renewable energy "must be carried out in balance with many other uses and values that serve the public interest and support the quality of life American citizens enjoy."[194] The report then enumerated the relevant values as "cultural, ecological, economic, historical, recreational, and scenic resources."[195] Similarly, the Defenders of Wildlife believes that "it is imperative for our future and the future of our wild places and wildlife that we strike a balance between addressing the near-term impacts of large scale solar energy development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat and natural landscapes."[196]

The leading national environmental groups are likely to balance the green harms and the green benefits differently than local or specialized environmental organizations. For example, national environmental groups have been more tolerant of the green harms associated with renewable energy because they are eager to gain the green benefits. The Sierra Club praises the benefits of solar energy without suggesting that there are any

194. NEW ENERGY FRONTIER, *supra* note 2, at 2.

195. *Id.*

196. Comments on Draft Plan Amendment (PA) to the California Desert Conservation Area Plan, 1980 as amended (CDCA Plan) and Draft Environmental Impact Statement (DEIS) for the McCoy Solar Energy Project (MSEP), 2 (Aug. 23, 2012), *reprinted at* WILDERNESS.ORG, *available at* http://wilderness.org/sites/default/files/McCoy-Solar-DEIS-Comments.pdf.

environmental concerns about it.[197] By contrast, Vermonters with Vision opposes industrial wind projects because "[t]he harm to Vermont's rural character far outweighs unreliable pay-offs to affected towns and individuals."[198] Local residents of the Mojave Desert are far more opposed to solar energy development there than most national environmental groups.[199] Organizations that focus on a particular environmental concern are also more skeptical of the impacts of renewable energy on their priority issues. Western Lands, a group that opposes the privatization of public lands, protested BLM's programmatic EIS for solar energy because "[b]y converting public lands to industrial energy factories in fragile, remote areas with massive requirements for transmission at great cost to ratepayers and the environment, our renewable energy policy is taking the least enlightened path possible, while attempting to create the illusion of innovation and progress."[200] The American Bird Conservancy worries that "[t]he wind energy is essentially unregulated."[201] This divergence between the positions of leading national environmental organizations and local or specialized groups is predictable given that the national groups are trying to pursue multiple goals that sometimes conflict, whereas local and specialized groups suffer a particular harm to their interests while sharing the benefits of renewable energy with a global constituency.

Many environmental statutes embrace the balancing of harms and benefits. The Clean Water Act authorizes the Corps to approve the filling in of wetlands if, among other things, such development is in the public interest. FLPMA's multiple use mandate gives BLM broad discretion to decide which activities

197. *See Solar Energy*, SIERRA CLUB, http://content.sierraclub.org/coal/solar (last visited Mar. 12, 2013).

198. VERMONTERS WITH VISION, *supra* note 42.

199. *See, e.g.*, Nagle, *supra* note 47. The division between local and national environmental groups with respect to renewable energy is also discussed in Klass, *supra* note 19, at 196–97; Glennon & Reeves, *supra* note 50, at 116–21; Loder, *supra* note 26, at 513 (observing that "[t]he argument that Americans benefit overall from clean and renewable energy production . . . can consider disutilities like wildlife impacts or regional controversy as justified prices of national progress, although that conclusion is far from guaranteed"). More generally, one environmental historian writes that "[w]hile national groups have often been at the center of public lands politics, understanding the pivotal role of local and regional groups and ad hoc coalitions is essential to understanding the history of American environmental politics." JAMES MORTON TURNER, THE PROMISE OF WILDERNESS: AMERICAN ENVIRONMENTAL POLITICS SINCE 1964 384 (2012).

200. Western Lands Project Solar FPEIS Protest, *supra* note 42, at 3.

201. *Gone with the Wind Hearing*, *supra* note 5, at 44 (statement of Donald Michael Fry, Director, Birds and Pesticides, American Bird Conservancy).

should be allowed on public lands. Most state and local laws encourage such a balancing approach as well.

The most explicit balancing of the harms and benefits of renewable energy has found that the benefits outweigh the harms. For example, the Ninth Circuit's affirmance of the district court's refusal to enjoin the Ivanpah solar project relied on the traditional test for balancing of the equities before entering injunctive relief. The appellate court held that

> the district court properly weighed the environmental harm posed by the Ivanpah Solar . . . project against the possible damage to project funding, jobs, and the state and national renewable energy goals that would result from an injunction halting project construction, and concluded that the balance favored Appellees. . . . The district court also did not abuse its discretion in analyzing the public interests at stake. It properly concluded that Appellant's contention that rooftop solar panels were a preferable source of renewable energy amounted to a policy dispute and could not support a finding that an injunction was in the public interest. The district court properly took into account the federal government's stated goal of increasing the supply of renewable energy and addressing the threat posed by climate change, as well as California's argument that the ISEGS project is critical to the state's goal of reducing fossil fuel use, thereby reducing pollution and improving health and energy security in the state.[202]

Similarly, applying the public interest criteria contained in section 404 of the CWA, the Corps found that "the overall net impact" of the Kibby Mountain wind farm expansion "is expected to be positive," notwithstanding "some short-term and minor environmental impacts."[203] The Corps considered twenty-one factors related to the public interest: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazard, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, property ownership, and general "needs and welfare of the people."[204] The

202. W. Watersheds Project v. Salazar, 692 F.3d 921, 923 (9th Cir. 2012).

203. Corps Permit Memorandum, *supra* note 104, at 30.

204. *See id.* at 23–30; *see also* 33 C.F.R. § 320.4(a)(1) (providing that "[a]ll factors which may be relevant to the proposal must be considered including the cumulative effects thereof: among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore ero-

latter general public welfare considerations included the energy generated by the project, the reduction in air pollution and greenhouse gases, and the long-term economic benefit to the local and regional economy.[205]

The critics of many wind and solar energy projects insist that the benefits of renewable energy can be secured without suffering the environmental harms resulting from current projects. Western Watersheds faulted BLM's solar energy programmatic EIS for failing to consider five alternatives:

1. A climate change alternative that would exclude all public lands from solar energy development to provide maximum flexibility and opportunity for species and their habitats to survive climate change impacts;
2. An alternative that would use presence of an endangered, threatened, or candidate species as an exclusion in the screening criteria so that SEZ are not designated on habitat for endangered, threatened, or candidate species;
3. An alternative that constrains the range of technologies that could be used, to promote technologies that minimize water use and environmental footprints;
4. An alternative that focuses development on private land; and
5. A distributed energy alternative.[206]

Others have argued for siting large renewable energy facilities on already used lands or relying on micro solar and wind energy generators on individual buildings in urban areas.[207] The premise of such alternatives is that we can capture the green benefits of renewable energy without suffering the green harms.

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sion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people").

205. Corps Permit Memorandum, *supra* note 104, at 30. For additional examples of such balancing, see *Roadblocks to Wind and Solar Energy Hearing*, *supra* note 3 (statement of Rep. Gosar) (asserting that "a careful balance between environmental protection and economic activity can be achieved"); 16 U.S.C. § 1536(h)(1)(a)(2) (2006) (empowering the Endangered Species Committee to authorize a project that will jeopardize the survival of an endangered species if, *inter alia*, the committee finds that "the benefits of such action clearly outweigh the benefits of alternative courses of action consistent with conserving the species or its critical habitat").

206. Western Watersheds Solar FPEIS Protest, *supra* note 42, at 3–4.

207. *See* Nagle, *supra* note 47, at 1384; Western Lands Project Solar FPEIS Protest, *supra* note 42 (advocating distributed generation or solar development on degraded lands).

The idea that we can achieve green benefits without suffering any green harms—or other kinds of harms—is implausible. Trade-offs are inevitable. A cursory glance at any environmental impact statement produced since NEPA was enacted confirms that every project has at least some environmental harm. The very provisions that provide more information about the environment reveal consequences that we never understood before.[208] Many of our historical environmental harms were unanticipated. Others were seen as insignificant. We routinely traded environmental values for other goods before the enactment of the modern body of environmental statutes in the 1960s and 1970s. We traded clean air and water for industrial production. We traded wildlife habitat for highways, subdivisions, and shopping malls. We traded ecological health for more abundant agriculture. We traded free-flowing rivers for electric power.

One purpose of environmental law is to prevent such trade-offs. Environmental statutes either require environmental values to be considered in the course of engaging in an activity (e.g., considering the amount of air pollution associated with an industrial development) or they absolutely require that environmental values be maintained (e.g., a dam cannot be built if it would cause a fish to go extinct). The environmentally preferred outcome has been obvious in such cases. Now, however, we are being asked to accept an environmental harm in exchange for an environmental good of another kind. We promote renewable energy despite its effects on biodiversity and scenic landscapes. But why should we privilege environmental goods over other goods? Other forms of energy promote energy independence, jobs, and social cohesion. Are forms of energy production that produce those goods more or less important than energy that produces environmental goods?

The law's ultimate form of balancing is simply to ask whether an activity is in the public interest. That is what Congress has done with respect to projects such as the Keystone XL pipeline,[209] the continued operation of an oyster farm within the

208. *See* Victor B. Flatt, *Saving the Lost Sheep: Bringing Environmental Values Back into the Fold with a New EPA Decision Making Paradigm*, 74 WASH. L. REV. 1, 8 (1999) (contending that "[p]olicy makers make judgments about trade-offs all the time. But without an explicit acknowledgment of the trade-offs at stake, those judgments will be arbitrary.").

209. *See* U.S. DEP'T OF STATE, DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE KEYSTONE XL PROJECT: EXECUTIVE SUMMARY ES-1 (2013), *available at* http://keystonepipeline-xl.state.gov/documents/organization/205719.pdf (explaining that "[f]or proposed petroleum pipelines that cross international borders of the United States, the President, through Executive Order 13337, directs the Secretary of State to decide whether a project is in

Point Reyes National Seashore,[210] and the construction of a road through a wilderness area in the Izembek National Wildlife Refuge.[211] The public interest standard is illustrative as applied to two national wildlife refuges: Izembek, where a proposed road would connect an isolated community to the outside world at the cost of harming an important bird habitat; and Malheur, adjacent to the North Sky wind farm project where a right-of-way across refuge lands would bring wind power to market. If the environmental harms are the same, then should it matter whether or not they are caused by an effort to provide a social benefit instead of an environmental benefit? Or if the environmental harms are not the same (which is more likely in this case), is it nonetheless possible that the social benefits can outweigh them at Izembek? If balancing is to be done, it should place all of the factors on the scale, not just the green benefits and harms.

But balancing is not always in the public interest. Some places are, and should be, off limits for renewable energy projection no matter how brightly the sun shines or how hard the wind blows there. Energy development is already prohibited in national parks and wilderness areas.[212] The NPCA would go further, proposing "a 15 mile exclusion zone around national parks," which would remove one million acres from consideration for solar development in the California desert alone.[213] Much of the current debate about the siting of renewable energy facilities seeks to identify the places where we are not willing to suffer green harms regardless of the green benefits, while identifying other places where we are willing to make that environmental trade-off.

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the 'national interest' before granting a Presidential Permit. The national interest determination by the U.S. Department of State (the Department) involves consideration of many factors, including energy security; environmental, cultural, and economic impacts; foreign policy; and compliance with relevant federal regulations.").

210. *See* Drakes Bay Oyster Co. v. Salazar, No. 12-cv-06134, 2013 U.S. Dist. LEXIS 15056 (N.D. Cal. Feb. 4, 2013).

211. *See* U.S. Fish & Wildlife Serv., Izembek National Wildlife Refuge Land Exchange/Road Corridor: Final Environmental Impact Statement-Executive Summary (2013), http://izembek.fws.gov/pdf/eis/01%20Executive%20Summary.pdf (explaining that "[i]n the *Omnibus Public Land Management Act of 2009* (Public Law 111-11, Title VI, Subtitle E) (Act), Congress authorized the Secretary of the Interior to exchange lands within the Izembek National Wildlife Refuge for lands owned by the State of Alaska and the King Cove Corporation for the purpose of constructing a single lane gravel road between the communities of King Cove and Cold Bay, Alaska, if it is in the public interest").

212. *See* New Energy Frontier, *supra* note 2.

213. Nat'l Parks Conservation Ass'n, *supra* note 37, at 79.

IV. Conclusion

For nearly two centuries, development occurred in the United States without regard to its environmental consequences. Imagine what our environment would be like today if our current environmental laws had been in place as long as the U.S. Constitution. Would we have dammed the Columbia River if we had been alert to the impact on salmon runs?[214] Would we have cleared forests for agriculture, or drained swamps for residential developments, or diverted rivers for irrigation? Those activities were often undertaken both to serve human needs and to improve the environment; now they must navigate a gauntlet of environmental regulations.

In many instances, we should not sacrifice environmental values even to achieve other environmental values. The Endangered Species Act, the National Park Service's Organic Act, and the Wilderness Act are our best reminders of the danger of always allowing trade-offs on a case-by-case basis. But sometimes we should be willing to sacrifice environmental values to achieve other values. If a project is worthwhile on environmental grounds, then it must be worthwhile after application of any environmental regulations. To the extent that those regulations would prevent an otherwise worthwhile project from proceeding, then the regulations should be reconsidered. But that is true regardless of why the project is worthwhile. A project that is needed for national security or public health purposes should count just as much as a project that is needed for environmental purposes. Green projects produce many benefits; projects that are not so green produce many benefits too. We should rely on environmental law to sort out which harms are tolerable and which are not. The whole point of environmental statutes is to constrain projects that we otherwise like. The fact that we like a project because of its environmental benefits provides a significant test for how serious we are about the enterprise of environmental *law*.

214. *See Gone with the Wind Hearing*, *supra* note 5, at 14 (statement of Rep. Kildee) (noting that "years ago in the northwest of this country dams were being built and we found out later the effect it had upon the salmon population, in some instances almost ruined for certain rivers and further inland, even as far as Idaho salmon, and we didn't know what we were doing then. We didn't ask ourselves what would happen to the salmon."); Klass, *supra* note 19, at 176.