
Renewable Energy and the Public Trust Doctrine

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This Article explores the role of the public trust doctrine in current efforts to site large-scale wind and solar projects on public and private lands. Notably, both proponents and opponents of such renewable energy projects have looked to the public trust doctrine to advance their goals. Proponents point to the environmental and climate change benefits associated with renewable energy development and argue that the use of public lands and large tracts of private lands to facilitate such projects are both in the public interest and consistent with the public trust doctrine. At the same time, parties opposed to particular renewable energy projects have argued that the land-intensive nature of these projects as well as their potential adverse impacts on endangered species, open space, aesthetic values, and pristine landscapes will result in a violation of the public trust doctrine. Which side is right? How do we balance the benefits and harms of large-scale renewable energy projects and what role should the public trust doctrine play in setting that balance? In addressing these questions, this Article discusses the extent to which the public trust doctrine applies to onshore and offshore renewable energy projects on private, state, and federal lands and waters. It then discusses the potential role state and federal legislation can play in codifying or expanding the application of the public trust doctrine with regard to state and federal lands and waters. It concludes by suggesting ways in which existing statutes and new, renewable energy-specific statutes can attempt to build on the public trust doctrine to encourage renewable energy development without compromising competing public trust values.

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INTRODUCTION

In recent years, efforts to develop large-scale wind, solar, and other renewable energy projects in the United States have grown exponentially.¹ While the amount of energy in the United States derived from renewable sources remains quite small, the past year has seen the U.S. Department of Interior, other federal agencies, and state agencies grant approvals and significant funding for a dizzying array of renewable energy projects on public lands and in public waters.² These projects have the potential to dramatically increase the amount of renewable energy available in the United States and reduce our dependence on coal, natural gas, oil, and other sources of energy that contribute to climate change, conventional pollution, and other environmental problems.³ The rhetoric surrounding renewable energy focuses on energy independence, job creation, environmental protection, economic development, and the need to create sources of sustainable energy for future generations.

This focus on the role of renewable energy in addressing climate change, energy independence, and environmental protection for present and future generations has direct ties to the public trust doctrine, the topic of this symposium. Although the public trust doctrine has for centuries eluded precise definition, the idea behind it is that there are some resources, notably navigable and tidal lands and waters, and in some cases other public lands and natural resources, that are forever to be held in trust for present and future generations.⁴

For public trust doctrine purposes, renewable energy projects may be different from other types of development projects or energy projects that impact public trust resources such as wildlife, open space, and public lands. This is because renewable energy development is an attempt to reduce the negative impacts of climate change on future generations. Accordingly, the potential for renewable energy projects to favorably impact future generations and, more importantly, to prevent devastating effects on future generations and their environment, may be relevant to current efforts to reconcile the requirements of the public trust doctrine with the state and federal

¹ See *infra* Part III.

² *Id.*

³ *Id.*

⁴ See, e.g., 1 WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW: AIR AND WATER § 2.20, at 155 (1986) (describing the public trust doctrine); Alexandra B. Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, 82 NOTRE DAME L. REV. 699, 702 (2006) (same); *Kelley v. 1250 Oceanside Partners*, 140 P.3d 985 (Haw. 2006) (same).

regulatory structure being created to promote renewable energy and govern the siting and operation of renewable energy projects. Thus, because of the role renewable energy can potentially play in addressing climate change and reducing pollution caused by existing, non-renewable energy sources, one might conclude that renewable energy development is entirely consistent with the public trust doctrine.

In recent years, however, opponents of particular renewable energy projects have relied on the public trust doctrine to block such projects. There has been significant publicity surrounding local efforts to stop the Cape Wind project off the coast of Massachusetts on public trust doctrine grounds, citing the potential impact of the project on scenic seascapes, aesthetic values, and wildlife.⁵ Members of Congress and environmental groups have also raised concerns over the impact of large-scale solar projects on wildlife and scenic landscapes in the Mojave Desert, in other areas of California, and in other western states.⁶ This Article explores the role of the public trust doctrine in these current controversies and its role in efforts to resolve future conflicts between renewable energy projects and competing public trust values.

Throughout this Article, I refer both to “public trust values” and “public trust principles” and thus an explanation of both concepts is in order. I use the term “public trust values” quite broadly. It encompasses both traditional and modern activities and resources covered under the broadest interpretation of the common law public trust doctrine, along with additional protections state statutory and constitutional provisions provide to activities and resources in some states. Notably, early cases involving the common law public trust doctrine focused primarily on public navigation, commerce, and fishing as the activities within the doctrine’s protection.⁷ By the 1980s, however, courts in some states, notably California, regularly included

⁵ See *infra* notes 151-184 (discussing controversy over Cape Wind project).

⁶ Todd Woody, *Desert Showdown: Big Solar v. Little Wildlife*, GREEN WOMBAT (Mar. 26, 2009), <http://thegreenwombat.com/2009/03/26/desert-showdown-over-big-solar-projects>; Todd Woody, *Desert Vistas v. Solar Power*, N.Y. TIMES (Dec. 21, 2009), <http://www.nytimes.com/2009/12/22/business/energy-environment/22solar.html?pagewanted=all>. See generally John C. Nagle, *See the Mojave!*, 89 OR. L. REV. 1357 (2011) (discussing recent disputes over solar developing in the Mojave Desert).

⁷ See *Ill. Cent. R.R. Co. v. Illinois*, 146 U.S. 387, 452 (1892) (declaring that state held lands under the Chicago Harbor in Lake Michigan “in trust for the people of the State, that they may enjoy the navigation of the waters, carry on commerce over them, and have the liberty of fishing therein, freed from the obstruction or interference of private parties”).

recreation, beach access, open space, wildlife, and wildlife habitat as the activities and resources the state was obligated to protect under the common law public trust doctrine. For instance, the California Supreme Court in 1971, in *Marks v. Whitney*, declared that

[t]here is a growing public recognition that one of the most important public uses of the tidelands—a use encompassed within the tidelands trust—is the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area.⁸

A decade later, in 1983, in the *Mono Lake* case, the same court said even more clearly that the “principal values” the plaintiffs sought to protect, namely “recreational and ecological [values] – the scenic views of the lake and its shore, the purity of the air, and the use of the lake for nesting and feeding by birds” were protected by and within the purposes of the public trust.⁹ Thus, throughout this Article I use the term “public trust values” to include the broadest range of activities and resources protected by the doctrine in some states, with a particular focus on the protection of ecological, climate, air, water, open space, aesthetic, and wildlife resources. It is important to note, however, that while all states generally recognize some application of the public trust doctrine, many states interpret its scope much more narrowly than California, which means the scope of public trust values protected by the doctrine will differ significantly from state to state.¹⁰

I use the term “public trust principles” in the same way I have used it in earlier scholarship, where I explored the manner in which courts have used the common law public trust doctrine, together with state constitutions and statutes expressing public trust ideas, to reinforce each other.¹¹ In that earlier work, I showed how courts in some states have relied in recent decades on state constitutional provisions and state statutes that expressly grant rights to present and future generations of the state to a “clean and healthful environment” or to

⁸ *Marks v. Whitney*, 491 P.2d 374, 380 (Cal. 1973).

⁹ *Nat'l Audubon Soc'y v. Super. Ct. (Mono Lake)*, 658 P.2d 709, 719 (Cal. 1983).

¹⁰ See Robin K. Craig, *A Comparative Guide to the Western States' Public Trust Doctrines: Public Values, Private Rights, and the Evolution Toward an Ecological Public Trust*, 37 *ECOLOGY L.Q.* 53, 71-72, 80, 92 (2010) (discussing significant differences in state approaches toward how broadly to apply the public trust doctrine to state waters and resources); *infra* notes 228 - 231 and accompanying text.

¹¹ See Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 701.

“the preservation of natural resources” to protect public trust values. Where these constitutional provisions or statutes are available, courts regularly use these tools together with the common law public trust doctrine to achieve more robust protection of public trust values than would be available under the common law alone, or the state constitution alone, or a state statute alone.¹² For instance, state courts in recent years have relied on public trust principles to support governmental action to amend instream flow regulations, charge assessments for beach restoration, ban personal watercraft on certain waterbodies, deny a permit for a pier, and defend against takings claims.¹³ In each of these cases, the courts did not rely on the common law public trust doctrine alone but broadened the discussion to include relevant statutory and constitutional provisions that provided additional protection for public trust resources. Thus, I use the term “public trust principles” throughout this Article to convey the idea that the public trust in many states is not just a function of common law but a broader and, in some cases, more powerful concept that derives from the interplay of common law, statutes, and state constitutions.

This Article proceeds in four parts. Part I provides a brief background on the development of the public trust doctrine and its application to state lands and waters. This Part describes not only the historic common law doctrine, but also explains how courts have used “public trust principles” to protect a wide range of “public trust values” on land and water. This Part also shows how both the historical public trust doctrine and its modern application through the use of public trust principles focus explicitly on the need to protect public trust values for future generations. Part II explores the role of the public trust doctrine on federal lands and waters and the efforts courts and scholars have made to apply the common law doctrine and modern public trust principles in that setting. Part III turns to renewable energy, particularly wind and solar energy, and explores how efforts to create large-scale wind and solar projects on public and private lands and in public waters have conflicted with public trust values designed to protect open space, wildlife, aesthetic values, and other environmental values. Last, Part IV suggests ways in which existing statutes and new, renewable energy-specific statutes can attempt to build on the public trust doctrine to encourage renewable energy development without compromising competing public trust values.

¹² See *id.*

¹³ See *id.* at 734-43 (discussing cases).

I. THE PUBLIC TRUST DOCTRINE AND ITS APPLICATION TO STATE
 LANDS AND WATERS

Numerous courts and legal scholars have written in great detail about the history and scope of the public trust doctrine as it applies to state lands and waters.¹⁴ I will not attempt to repeat that work in detail here, but instead will provide a short summary of the highlights to set the stage for the remainder of this Article. More important, the discussion in this Part focuses specifically on the language of the case law on the public trust doctrine that highlights the obligation that the doctrine imposes on governmental entities with regard to future generations.

Most discussions of the public trust doctrine begin, of course, with the 1892 landmark case of *Illinois Central Railroad Company v. Illinois*,¹⁵ in which the U.S. Supreme Court articulated the limits the public trust doctrine imposes on state action. In that case, the Supreme Court stated that the Illinois legislature's effort in 1869 to convey more than 1000 acres under Lake Michigan in the Chicago Harbor to the Illinois Central Railroad was invalid under the public trust doctrine.¹⁶ The Court confirmed that the state held title to the submerged lands at issue, but held that the title to this land was "different in character" from other state lands which could be sold into private ownership and also different than "the title which the United States hold in the public lands which are open to preemption and sale."¹⁷ Instead, the submerged state lands at issue were a "title held in trust for the people of the State that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein freed from the obstruction or interference of private parties."¹⁸ That did not mean that the state could not allow any private economic uses in connection with those lands, but the uses must be ones that "do not substantially impair the public interest in the lands and waters remaining."¹⁹

¹⁴ See, e.g., Joseph D. Kearney & Thomas W. Merrill, *The Origins of the American Public Trust Doctrine: What Really Happened in Illinois Central*, 71 U. CHI. L. REV. 799 (2004); Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631 (1986); Joseph L. Sax, *The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471 (1970); see also cases cited *infra* notes 15-33.

¹⁵ 146 U.S. 387 (1892).

¹⁶ *Ill. Cent. R.R. Co.*, 146 U.S. at 454.

¹⁷ *Id.* at 452.

¹⁸ *Id.*

¹⁹ *Id.*

This idea that activities on public trust lands are limited to those that do not interfere with the public's free use of those land and the public interest inherent in those lands carried over into more contemporary public trust doctrine cases. As Joseph Sax argued in his groundbreaking 1970 law review article on the public trust doctrine, courts in several states prior to the 1970s had relied on the public trust doctrine to prevent states from compromising public trust resources for the benefit of future generations to achieve short-term economic development goals.²⁰ Since Sax's article, with the rise of the environmental movement of the 1970s, many more state courts have expanded the primary public trust values to be protected to include recreation, environmental protection, scientific study, and wildlife for the benefit of both current and future generations.²¹

For instance, in 1971, the California Supreme Court, in *Marks v. Whitney*, held that the public trust doctrine prevented a private owner of tidelands from filling that resource based on the growing recognition that tidelands are valuable in their natural state to serve as ecological units for scientific study, to preserve open space, and to support birds and marine life.²² Thus, the court placed the needs of future generations of the public above the current economic interests of the private owner.

Likewise, in 1977, in *Scott v. Chicago Park District*, the Illinois Supreme Court invalidated a state senate bill conveying nearly 200 acres under Lake Michigan to a steel company to build an industrial plant.²³ The court recognized that the plant would provide current public benefits in the form of jobs and economic development, but that the public trust doctrine prevented use of such lands to achieve these short-term benefits because of the overriding public trust need in "conserving natural resources and in protecting and improving our physical environment."²⁴ Thus, the court focused on the need to "conserve," "protect," and "improve" the physical environment, which are ideas that focus on the future and the needs of future generations.

²⁰ Sax, *supra* note 14, at 491-546; see also Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, 705-06 (citing pre-1970 state supreme court cases invalidating state action that would adversely impact wetlands, lakes, and public parks under the public trust doctrine).

²¹ See Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 707-14 (discussing post-1970 cases).

²² *Marks v. Whitney*, 491 P.2d 374, 380 (Cal. 1971).

²³ See *Scott v. Chi. Park Dist.*, 360 N.E.2d 773, 780 (Ill. 1977).

²⁴ *Id.* at 781.

Soon after, in the famous *Mono Lake* case in 1983, the California Supreme Court relied on the public trust doctrine to invalidate water diversion permits granted to the City of Los Angeles for domestic consumption.²⁵ In that case, the court held that the public trust doctrine required the state to take into account the impact of the diversion on the steadily increasing salinity of the lake, which would adversely impact the food chain, millions of local and migratory birds using the lake, and the lake's long-term value as an aesthetic, recreational, and scientific resource.²⁶ A New York court reached a similar holding in 1998 when it upheld a state law restricting development in a natural area of Long Island on grounds that the "conservation of resources is intrinsically good and necessary for the continuance of society."²⁷ Finally, the Louisiana Supreme Court in 2004 upheld the constitutionality of a diversion project that would adversely impact private oyster beds because the purpose of the diversion was to protect the state coastline, "the loss of which is occurring at an alarming rate," which would ultimately lead to future loss of land, jobs, and commerce.²⁸

All of these cases show courts using the public trust doctrine to protect the interests of future generations by protecting the land and resources that provide public trust values, whether those values are commerce, fishing, recreation, wildlife protection, open space, or other environmental values. In any setting, the role of a trustee is to look forward to the future and take actions in the present that will first, maintain and, second, enhance the trust property for the benefit of future generations.²⁹

Indeed, state appellate courts have articulated this obligation toward future generations even more expressly in recent years, relying on *Illinois Central* and other precedent. In 2004, in *Citizens for Responsible Wildlife Management v. State*, the Washington Court of Appeals analyzed the state's obligation toward wildlife and confirmed that the public trust doctrine applied to the dispute, but found that the law at

²⁵ Nat'l Audubon Soc'y v. Super. Ct. (*Mono Lake*), 658 P.2d 709 (Cal. 1983).

²⁶ See *id.* at 716, 727-28.

²⁷ W.J.F. Realty Corp. v. New York, 672 N.Y.S.2d 1007, 1012 (App. Divs. 1998).

²⁸ Avenal v. Louisiana, 886 So. 2d 1085, 1101-02 (La. 2004).

²⁹ See CHRISTINE A. KLEIN, FEDERICO CHEEVER & BRET C. BIRDSONG, NATURAL RESOURCES LAW 618 (2d ed. 2009) (summarizing principles governing a trust and describing how the public trust doctrine requires states to act as trustees for resources protected by the trust).

issue governing wildlife did not violate the public trust doctrine.³⁰ Concurring in that decision, Judge Quinn-Brintnall stated that:

the sovereign's duty to manage its natural resources recognized in the public trust doctrine is not time limited, and the primary beneficiaries of the sovereign's exercise of its public trust are those who have not yet been born or who are too young to vote. Thus, the sovereign authority to regulate natural resources is circumscribed by its duty to manage natural resources well for the benefit of future generations. And when the sovereign exercises this authority, by executive order, legislative enactment or public initiative, the tenets of the public trust doctrine must be satisfied.³¹

Likewise, the Hawaii Supreme Court confirmed in 2006, in *Kelley v. 1250 Oceanside Partners*,³² that the state (and in that case the county) had obligations both under the common law public trust doctrine and the state constitution to protect the state's natural resources and water resources for future generations.³³

Although historically courts limited their discussion of the public trust doctrine to resources associated with navigable and tidal waters and the lands under them, more contemporary courts have expanded not only the values protected by the trust but the reach of the doctrine itself. For instance, some courts in recent years have recognized the application of the public trust doctrine not only to state submerged lands and coastal waters but also to dry sand areas of beaches for public recreation purposes, parklands, wildlife, and wildlife habitat (both water-based habitat and dry-land habitat), groundwater, and drinking water resources.³⁴ Notably, this expansion beyond lands submerged under navigable and tidal waters is not universal. Indeed, many states recognize the common law doctrine, if at all, only in its traditional, narrower form, and have not extended its application to inland resources, wildlife, or other broader environmental protection values.³⁵ Nevertheless, the premise that the state has a trust obligation

³⁰ See *Citizens for Responsible Wildlife Mgmt. v. State*, 103 P.3d 203, 207-08 (Wash. Ct. App. 2004).

³¹ *Id.* at 208.

³² 140 P.3d 985 (Haw. 2006).

³³ See *id.* at 997; see also *In re Water Use Permit Application*, 9 P.3d 409, 444 (Haw. 2000) (relying on similar reasons).

³⁴ See Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 707-08 (citing cases).

³⁵ See Craig, *supra* note 10, at 71 (discussing significant variations in scope of the public trust doctrine among the states).

for a broader range of resources and activities has gained significant traction in recent years in many states.³⁶

Moreover, as I have argued in prior work, state courts have relied heavily on state constitutional provisions and state statutes that express the intent of protecting and preserving state public lands and waters for future generations, in applying “public trust principles” that go beyond the common law doctrine.³⁷ Courts have used these principles to prevent state action that would impair public trust values or to uphold state action to protect public trust values against private takings claims when states attempt to amend instream flow regulations, charge assessments for beach restoration, ban personal watercraft on certain waterbodies, deny a permit for a pier, or take other similar action in the name of resource protection for future generations.³⁸ Thus, through the combination of the common law, statutes, and state constitutions that express “public trust principles,” state courts are not limited to the scope of the common law public trust doctrine. Rather, states can use the common law, statutes, and state constitutions together to promote the interests of future generations when those interests come in conflict with short-term economic gain.

³⁶ See Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 700-01 (contending that courts are more frequently using the common law public trust doctrine as well as statutory and constitutional provisions that contain public trust language to apply “public trust principles” for environmental protection purposes).

³⁷ *Id.* at 727-42.

³⁸ See *id.* at 734-43. In the 1970s, some states amended their constitutions to include explicit rights to expansive public trust values. In 1971, Pennsylvania included a provision that stated “[t]he people have a right to clean air, pure water, and to the preservation of natural, scenic, historic and esthetic values of the environment. Pennsylvania’s public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.” PA. CONST. art. I, § 27. Montana included a similar provision when it amended its constitution in 1974 to provide an “inalienable” right to a “clean and healthful environment” and create a duty on the state and private parties to “maintain and improve a clean and healthful environment in Montana for present and future generations.” MONT. CONST. art. II, § 3; *id.* art. IX, § 1. Likewise, Michigan, Minnesota and a few other states enacted statutes in the 1970s codifying the public trust doctrine, expressly expanding its scope to all natural resources, and granting private rights of action against the state and private parties whose actions might adversely impact natural resources. See, e.g., MINN. STAT. §§ 116B.01-.13 (2010) (codifying public trust doctrine concepts); MICH. COMP. LAW ANN. §§ 324.1701-.1706 (2011) (same); Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 719-27 (discussing statutes).

More difficult, of course, is the application of the traditional public trust doctrine to federal public lands, which do not have the same history of protection under the common law public trust doctrine as state lands. Despite their different history, many of the same principles that argue in favor of protecting state submerged and inland lands for future generations using public trust principles would seem to apply to federal public lands. Indeed, as discussed in the next Part, scholars for years have attempted to create a structure to bring federal lands and waters into the public trust fold.

II. THE PUBLIC TRUST DOCTRINE ON FEDERAL LANDS AND WATERS

In an article published just over thirty years ago as part of the last UC Davis Law Review Symposium on the public trust doctrine, Professor Charles Wilkinson focused on the role of the public trust doctrine on federal public lands.³⁹ Because of the central role federal public lands will play in any significant expansion of renewable energy in the United States, a review of his analyses and conclusions is a helpful place to start in considering the public trust doctrine's potential role in guiding renewable energy development on public lands.

In his article, Wilkinson began by asserting that the federal public lands "are at the outer reaches of the public trust doctrine," citing dicta in *Illinois Central* that distinguished state lands under navigable waterways from public lands held by the United States that are "open to pre-emption and sale."⁴⁰ He noted particularly that modern federal public lands were "not impressed with a trust at common law," in contrast to state submerged lands, and the lack of any historic prohibition against disposition of federal lands.⁴¹ Wilkinson went on to argue, however, that a growing body of case law suggested that the public trust doctrine applies to public lands, even though those cases use trust language "only in passing and with little analytical content."⁴²

To set the stage for this discussion, Wilkinson first looked to the early cases, such as *Pollard v. Hagen*, in which the U.S. Supreme Court in 1845 used public trust language to describe the role of the federal government as a temporary trustee of public lands. In that case, the

³⁹ See Charles F. Wilkinson, *The Public Trust Doctrine in Public Land Law*, 14 UC DAVIS L. REV. 269, 273-80 (1980).

⁴⁰ *Id.* at 273 (citing Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 452 (1892)).

⁴¹ *Id.* at 274-77.

⁴² *Id.* at 277-78.

Court declared that the federal government held those lands solely for the purposes of ultimately transferring them to new states to be created and thus would ultimately relinquish federal authority over them.⁴³ The next set of cases using trust language in the public lands context spanned from the late 1800s until the 1970s. These cases used public trust language in conjunction with the Property Clause of the U.S. Constitution to justify federal retention of public lands and regulatory authority over public lands when faced with competing claims of state authority.⁴⁴

Wilkinson then turned to a series of cases beginning around 1970 that involved the direct or indirect use of the public trust doctrine to limit federal power and support the rights of the public against the federal government.⁴⁵ The central set of cases in this era involved the *Redwood National Park* litigation of the 1970s. In those cases, the court invoked not only the public trust doctrine but also federal statutory mandates to impose trust obligations on the U.S. Forest Service to take action to protect Redwood National Park from harm associated with logging operations in and adjacent to the Park.⁴⁶

Indeed, several environmental and natural resources statutes use public trust-like language to express intent that particular natural resources be protected and preserved for future generations. For instance, the National Parks Service Organic Act of 1916 directs the National Park Service to “conserve the scenery and the natural and historic objects and the wildlife” of national parks and “provide for the enjoyment of the same” in a manner “as will leave them unimpaired for the enjoyment of future generations.”⁴⁷ Likewise, the National Environmental Policy Act (“NEPA”) directs all federal agencies to improve and coordinate federal plans and functions associated with federal projects so as to “fulfill the responsibilities of each generation as trustee of the environment for succeeding generations” and to “enhance the quality of renewable resources and approach the

⁴³ *Id.* at 278-80 (citing *Pollard v. Hagan*, 44 U.S. (3 How.) 212 (1845)).

⁴⁴ *Id.* at 280-83.

⁴⁵ *Id.* at 283-88.

⁴⁶ *See id.* at 285-86 (citing *Sierra Club v. Dep't of Interior*, 376 F. Supp. 90 (N.D. Cal. 1974); *Sierra Club v. Dep't of Interior*, 424 F. Supp. 172, 172 (N.D. Cal. 1976); *Sierra Club v. Dep't of Interior*, 398 F. Supp. 284, 286 (N.D. Cal. 1975). *But see* *Sierra Club v. Andrus*, 487 F. Supp. 443, 448 (D.D.C. 1980), appeal docketed, No. 80-1674 (D.C. Cir., June 18, 1980) (holding that neither the Bureau of Land Management nor the National Park Service had any trust duties independent of the statutes governing the management of specific public lands).

⁴⁷ 16 U.S.C. § 1 (2006).

maximum attainable recycling of depletable resources.”⁴⁸ The Federal Land Policy and Management Act of 1976 directs the Bureau of Land Management (“BLM”) to, among other things, develop and maintain public lands in a manner that evaluates “present and potential uses of the public lands,” consider the “relative scarcity of the values involved,” and weigh “long-term benefits to the public against short-term benefits.”⁴⁹ The Wilderness Act of 1964 creates a national policy of wilderness creation on appropriate public lands “to secure for the American people of present and future generations the benefits of an enduring resource of wilderness.”⁵⁰ Finally, the Endangered Species Act of 1973 includes a declaration of federal policy that endangered and threatened fish, wildlife, and plants are “of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people” and that the U.S. has pledged to “conserve to the extent practicable the various species of fish or wildlife and plants facing extinction.”⁵¹

Despite this public trust-like language in federal statutes, courts have never recognized a federal public trust doctrine that definitively limits federal action or imposes duties on federal actors in the same way they have done in the state law context, although some have argued nothing in the doctrine *prevents* its application to the federal government.⁵² Ultimately, even Wilkinson concluded that while thirty-six court opinions over the years used public trust language for various purposes in the context of inland public lands, the opinions on their own were not enough to justify a robust common law public trust obligation on the federal government with regard to those lands.⁵³ He found it important, however, that those opinions tracked closely contemporaneous Congressional action and, not surprisingly, reflected changing views toward the public lands at different times, namely, from an era of disposition, to one of augmenting federal power, to one of imposing conservation obligations on the federal

⁴⁸ 42 U.S.C. § 4331 (2006).

⁴⁹ 43 U.S.C. § 1712(c) (2006).

⁵⁰ 16 U.S.C. § 1131 (2006).

⁵¹ 16 U.S.C. § 1531(a) (2006).

⁵² See, e.g., Robin K. Craig, *Mobil Oil Exploration, Environmental Protection, and Contract Repudiation: It's Time to Recognize the Public Trust in the Outer Continental Shelf*, 30 ELR 11104, 11116 (2000) (stating that “in America, the public trust doctrine applies primarily to states, not the federal government,” although nothing prevents it from applying to the federal government “because the doctrine derives from the English monarch’s *national sovereignty*”).

⁵³ Wilkinson, *supra* note 39, at 298-99.

government.⁵⁴ Thus, Wilkinson focused on the importance of a public trust doctrine that rests on “implication” that courts justifiably turn to repeatedly, despite the existence of overlapping statutory obligations.⁵⁵

Scholarship since Wilkinson’s article has continued to track the use of trust language in cases involving federal public lands and generally has concluded that public trust doctrine obligations on the federal government with regard to public lands exist, if at all, by implication in combinations with statutory and constitutional mandates. In a 2004 article, Professor Eric Pearson concluded that while the public trust doctrine is “vigorous” in state law, it “exists only nominally in federal law.”⁵⁶ He went on to note that federal courts have not necessarily rejected a federal public trust doctrine but that there are few cases on point, and those cases tend to use the doctrine to justify the exercise of federal power rather than placing any significant substantive limits on such power.⁵⁷ Likewise, in a 2010 article discussing the use of the public trust doctrine in the context of greenhouse gas emission trading systems, Professor Karl Coplan concluded that whether the public trust doctrine applies to federal legislative or agency action remains an open question. He noted that lower federal courts reached conflicting results “about the existence of federal public trust responsibilities” and more often used trust language to support the exercise of federal authority rather than to limit it.⁵⁸

Notably, with current efforts to site large-scale wind farms off the Atlantic Coast, such as the Cape Wind project discussed in more detail below, recent scholarship has focused on the potential role of the public trust doctrine in Congressional and agency decisions regarding federal submerged lands and waters rather than inland public lands.⁵⁹

⁵⁴ *See id.*

⁵⁵ *Id.* at 298-300.

⁵⁶ Eric Pearson, *The Public Trust Doctrine in Federal Law*, 24 J. LAND RESOURCES & ENVTL. L. 173, 174 (2004).

⁵⁷ *See id.* at 174-75.

⁵⁸ Karl S. Coplan, *Public Trust Limits on Greenhouse Gas Trading Schemes: A Sustainable Middle Ground?*, 35 COLUM. J. ENVTL. L. 287, 312-15 (2010) (citing two cases that suggest the federal government holds public trust assets subject to traditional public trust in navigation and fishing access, another case that rejects such trust limitations, and yet other cases that appear to use the public trust doctrine to empower federal agencies to “protect communitarian public trust values rather than placing limitations on federal action”).

⁵⁹ *See, e.g.,* Elizabeth A. Ransom, *Wind Power Development on the United States Outer Continental Shelf: Balancing Efficient Development and Environmental Risk in the Shadow of the OCSLA*, 31 B.C. ENVTL. AFF. L. REV. 465 (2004) (discussing application of public trust principles to federal waters); Rachel E. Salcido, *Law Applicable on the Outer Continental Shelf and in the Exclusive Economic Zone*, 58 AM. J. COMP. L. 407

Along the ocean coasts, states have jurisdiction over waters and submerged lands up to three nautical miles offshore except along certain areas of the Gulf Coast, namely Texas and Florida, where state jurisdiction extends up to nine miles offshore.⁶⁰ Beyond that distance, the federal government has jurisdiction over the territorial sea, which extends up to twelve nautical miles from state water boundaries, and the U.S. Exclusive Economic Zone (“EEZ”), which extends from twelve to 200 nautical miles off the coasts of the U.S. and its territories.⁶¹

For the most part, attempts to apply the public trust doctrine directly to federal submerged lands and waters face the same obstacles as attempts to apply the doctrine to inland federal lands. Most notably, federal submerged lands do not have the strong, common law history that exists with regard to state submerged lands. Nevertheless, just as with federal inland public lands, one can argue that existing statutes governing federal submerged lands and waters can help form the basis of a public trust responsibility, particularly in combination with future, more specific, federal statutes. For instance, a 2010 article explores the use of the public trust doctrine to govern the EEZ. It concludes that the building blocks exist in the common law, federal statutes, and federal regulations governing the ocean to justify the expansion of the public trust doctrine to federal ocean waters.⁶²

Not surprisingly, federal officials and agencies are reluctant to recognize the public trust doctrine as a limitation on their actions. Instead, they point to their statutory mandates and any “public

(2010) (same); Mary Turnipseed, et al., *The Silver Anniversary of the United States' Exclusive Economic Zone: Twenty-Five Years of Ocean Use and Abuse, and the Possibility of a Blue Water Public Trust Doctrine*, 36 *ECOLOGY L.Q.* 1 (2009) (same); see also Jack H. Archer & M. Casey Jarman, *Sovereign Rights and Responsibilities: Applying Public Trust Principles to the Management of EEZ Space and Resources*, 17 *OCEAN & COASTAL MGMT.* 253 (1992).

⁶⁰ The Submerged Lands Act of 1953 states that state jurisdiction may extend no more than three geographical miles into the Atlantic Ocean or Pacific Ocean or no more than three marine leagues into the Gulf of Mexico. 43 U.S.C. § 1301(b) (2006). A “marine league” equals three nautical miles. *Id.*

⁶¹ See Turnipseed, et al., *supra* note 59, at 5 (discussing statutes and Presidential Proclamations governing U.S. authority over coastal waters, territorial seas, and exclusive economic zones); NAT'L RENEWABLE ENERGY LABORATORY, *LARGE-SCALE OFFSHORE WIND POWER IN THE UNITED STATES* 133-36 (2010) (discussing laws governing state and federal jurisdiction over offshore waters) [hereinafter NREL, *LARGE-SCALE OFFSHORE WIND POWER*]; see also *Am. Pelagic Fishing Co. v. United States*, 379 F.3d 1363, 1378-80 (Fed. Cir. 2004) (describing federal government's sovereign management and conservation of fisheries under the Magnuson Act using public trust-like language).

⁶² Turnipseed, et al., *supra* note 59, at 69.

interest” analysis required by those statutes as the limits on their authority. For instance, in connection with the Cape Wind project off the coast of Massachusetts that is discussed in more detail in Part III, the U.S. Army Corps of Engineers completed an “Environmental Assessment and Statement of Findings” associated with a scientific measuring device station for the project to be located in federal waters.⁶³ One of the comments submitted during the environmental review proceedings stated that the project was inconsistent with the “federal public trust doctrine.”⁶⁴ In response, the Army Corps stated that it was “not aware of any federal public trust responsibilities that are imposed on the Corps or that the Corps is required to administer.”⁶⁵ The Army Corps stated that its regulations provided for a “public interest review” under 33 C.F.R. pt. 320.4(a), which entails assessing a “number of factors” but that even if such an applicable doctrine existed, it is unclear how it would apply in any particular case.⁶⁶ The Army Corps went on to state that the “public trust doctrine applies to the sovereign States when administering their public submerged lands within their territorial boundaries” and that since the tower is beyond the territorial limits of any state, “the public trust doctrine would not apply to this project.”⁶⁷

In sum, federal courts in general have not embraced the public trust doctrine as a common law limit on federal power, although they have over the years used public trust language to bolster federal power or, in certain circumstances, to limit federal power when used in conjunction with specific statutory mandates. Likewise, the federal agencies themselves have understandably resisted the public trust doctrine as imposing any limitation on their actions or statutory discretion. What role then should the public trust doctrine play, if at all, when the federal government is called upon to exercise its power to utilize the federal public lands or waters to further the public interest in expanding renewable energy but that same expansion may adversely affect existing public trust values, such as wildlife open space, and conservation? This is one of the central questions of this Article. Before turning to that question directly, however, Part III

⁶³ *Alliance To Protect Nantucket Sound, Inc. v. U.S. Dep’t of Army*, 398 F.3d 105, 111 (1st Cir 2005) (citing U.S. Army Corps of Engineers, Environmental Assessment and Statement of Findings, Application Number 199902477, Cape Wind Associates LLC (Aug. 19, 2002)) (reviewing legality of Army Corps permit).

⁶⁴ *Id.* at 13.

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ *Id.*

explores in more detail the history and status of large-scale wind and solar projects on private and public lands and the nature of the public trust conflicts over efforts to provide sources of renewable energy for future generations.

III. THE PURSUIT OF LARGE-SCALE WIND AND SOLAR PROJECTS AND CONFLICTS WITH EXISTING PUBLIC TRUST VALUES

Undoubtedly, state and federal policymakers consider renewable energy to be in the public interest. These policymakers have enacted policies and incentives to increase renewable energy generally and to site large-scale renewable energy projects on public lands and large tracts of undeveloped private lands.⁶⁸ The Energy Policy Act of 1992, along with subsequent legislation, encouraged the growth of renewable energy by providing a production tax credit in order to incentivize investors in wind farms and other renewable energy projects.⁶⁹ More recently, in the Energy Policy Act of 2005, Congress directed the Department of Interior and the Department of Energy to work together to place at least 10,000 MW of non-hydroelectric renewable energy on public lands.⁷⁰ Since then, additional federal grants, policies, and incentives have resulted in solar and wind energy companies seeking and receiving significant numbers of permits for renewable energy projects on BLM and other public lands.⁷¹

⁶⁸ In addition to wind and solar energy, the U.S. Department of Energy has focused its renewable energy efforts on water power, biomass, hydrogen and fuel cell, and geothermal energy. *See, e.g.*, U.S. DEP'T OF ENERGY, RENEWABLE ENERGY, http://www.eere.energy.gov/topics/renewable_energy.html (last visited Nov. 27, 2011).

⁶⁹ *See, e.g.*, U.S. DEP'T OF ENERGY, 20% WIND ENERGY BY 2030, 6 (July 2008) (discussing enactment of production tax credit ("PTC") for wind energy in 1992 and subsequent expirations and extensions of the PTC); DSIRE, Federal Incentives/Policies for Renewables and Efficiency, Renewable Electricity Production Tax Credit (PTC), U.S. DEP'T OF ENERGY, http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F (discussing history and provisions of PTC, which grants a per-kilowatt-hour tax credit for electricity generated by qualified energy resources and sold by the taxpayer to an unrelated person during the taxable year.).

⁷⁰ ENERGY POLICY ACT OF 2005, Pub. L. No. 109-58, 119 Stat. 594, 660 (codified as amended in scattered sections of 16 U.S.C.A. and 42 U.S.C.A.); Robert Glennon & Andrew M. Reeves, *Solar Energy's Cloudy Future*, 1 ARIZ. J. OF ENVTL. L. & POL'Y 91,111 (2010).

⁷¹ Glennon & Reeves, *supra* note 70, at 111-12; *infra* notes 93, 102-105, 195-204 and accompanying text (discussing additional federal and state incentives and policies to promote wind and solar energy).

At the state level, over twenty states and the District of Columbia have enacted “renewable portfolio standards” (“RPS”), which require utilities in the state to generate a certain percentage of power from renewable energy sources, or in some states, pay alternative compliance payments as a penalty.⁷² For example, California requires 33% by 2030, and New York requires 24% by 2013.⁷³ Together, states that have enacted such standards account for more than half of the electricity sales in the United States.⁷⁴ This focus on renewable energy has resulted in the development of markets for renewable energy credits or certificates (“REC”), which allow electric consumers, utilities, and others in some states to purchase “green power” without regard to the specific source or location of generation to satisfy their RPS requirements.⁷⁵

Notably, in creating RPS and other renewable energy policies, some states have used language that draws on at least one component of public trust values in their broadest sense, namely, the need to create renewable energy sources for both present and future generations. For instance, Maryland cited “long-term decreased emissions, a healthier environment, [and] increased energy security” as support for its renewable energy law;⁷⁶ New Mexico declared that “the generation of electricity through the use of renewable energy presents opportunities to promote energy self-sufficiency, preserve the state’s natural resources and pursue an improved environment in New Mexico;”⁷⁷ Illinois stated that “the health, welfare, and prosperity of all Illinois citizens require the provision of adequate, reliable, affordable, efficient, and environmentally sustainable electric service;”⁷⁸ and, Oregon created the “Energy Trust of Oregon” to help establish “stable, consistent funding to help Oregonians invest in energy efficiency and renewable resources.”⁷⁹

⁷² U.S. DEP’T OF ENERGY, STATES WITH RENEWABLE PORTFOLIO STANDARDS, at http://apps1.eere.energy.gov/states/maps/renewable_portfolio_states.cfm (listing states and percentages); Craig M. Kline, *Solar*, in *THE LAW OF CLEAN ENERGY: EFFICIENCIES AND RENEWABLES* 391, 392 (Michael B. Gerrard ed. 2011).

⁷³ See U.S. DEP’T OF ENERGY, STATES WITH RENEWABLE PORTFOLIO STANDARDS, *supra* note 72.

⁷⁴ *Id.*

⁷⁵ See Kline, *supra* note 72, at 396-98.

⁷⁶ MD. CODE ANN., PUB. UTIL. COS. § 7-702 (West 2004).

⁷⁷ N.M. STAT. ANN. § 62-16-2 (2007).

⁷⁸ 20 ILL. COMP. STAT. ANN. 3855/1-5 (2011).

⁷⁹ ENERGY TRUST OF OREGON, *Who We Are*, <http://energytrust.org/> (last visited Nov. 27, 2011).

Part of the unique challenge of siting large-scale wind and solar projects, however, is that these projects are very land-intensive. This means that public lands and large tracts of undeveloped private lands are highly sought-after for such projects, creating conflicts with open space, aesthetic, and wildlife values.⁸⁰ Moreover, the highest efficiency large-scale solar projects require significant amounts of water to operate, creating conflicts between renewable energy development in the southwest desert and the already critical short water supplies in that area.⁸¹

Thus, as the number of large-scale renewable energy projects increases, conflicts with public trust values – open space, water conservation, critical habitat for endangered species, desert and scenic vistas, solitude, wilderness, and wildlife – are inevitable. This clash of values understandably puts policymakers and environmental groups in a dilemma. The same groups that champion renewable energy development because of its positive environmental and climate change impacts are often conflicted when the best locations for such development potentially interfere with the ability to protect the existing public trust values just noted. The remainder of this Part explores the nature of these large-scale wind and solar energy projects and details the manner in which policymakers and nonprofits groups have used public trust principles to support and to oppose these projects.

A. Wind Energy

The U.S. is second only behind China in installed, land-based wind energy capacity, but, as of June 2010, wind represents only 2.3% of the U.S. electric energy supply, which lags significantly behind countries like Denmark (26%), Portugal (17%), and Spain (15%).⁸² In a 2008 report, the U.S. Department of Energy considered what it would take for the U.S. to generate 20% of its electric energy supply from wind

⁸⁰ See *infra* notes 91 and accompanying text (comparing acreage needed for wind and solar projects with acreage needed for nuclear and coal plants to produce equivalent amounts of electricity).

⁸¹ See *infra* note 208.

⁸² *Wind Energy Update, Wind Powering America*, NAT'L RENEWABLE ENERGY LAB., U.S. DEP'T OF ENERGY (Oct. 2011), at http://www.windpoweringamerica.gov/pdfs/wpa/wpa_update.pdf; U.S. DEP'T OF ENERGY, 2010 RENEWABLE ENERGY DATA BOOK 29, 57 (2011), at <http://www.nrel.gov/analysis/pdfs/51680.pdf>; see also Elizabeth Rosenthal, *Portugal Gives Itself a Clean-Energy Makeover*, N.Y. TIMES, Aug. 10, 2010, at A1, (discussing significant increase in use of renewable energy in Portugal in the past five years based in large part on increase in wind power, and showing renewable energy percentages in various countries).

power.⁸³ The report concluded that based on estimates that U.S. electricity demand would grow by 39% from 2005 to 2030 (reaching 5.8 billion MW-hours), in order to meet 20% of that demand, U.S. wind power capacity would have to increase from 11.6 GW to more than 300 GW (300,000 MW).⁸⁴ The report estimated that of the 293 GW that would be added, 54 GW would come from offshore wind energy, mostly along the northeastern and southeastern seaboard.⁸⁵ Moreover, unlike Europe, which has developed several offshore wind projects, the U.S. so far has no offshore wind generating capacity; the Cape Wind project off the coast of Massachusetts will be the country's first offshore wind project if and when it comes online.⁸⁶ In states that have placed a significant premium on developing wind energy, the percentage of state electricity derived from wind energy is much higher than the U.S. average. For instance, Iowa obtains 18.8% of its electricity from wind resources, South Dakota obtains 15%, North Dakota obtains 12%, and Minnesota obtains almost 10%.⁸⁷

A 2010 study by the Department of Energy's National Renewable Energy Laboratory ("NREL") found that overland wind energy resources in the contiguous forty-eight states could generate 37 billion MW-hours of electrical power per year, equal to roughly 10 times the current electrical power usage in the continental United States.⁸⁸ Another NREL study focused on offshore wind resources and estimated that resource at more than 4,000 GW, or roughly four times the generating capacity currently carried on the U.S. electric grid.⁸⁹

Efforts to use wind power to meet state renewable energy goals and reduce dependence on fossil fuels are complicated by the fact that wind power is extremely land intensive and also can have significant adverse impacts on plant and animal species habitat, result in avian deaths, and interfere with open space and wilderness values.⁹⁰

⁸³ U.S. DEP'T OF ENERGY, 20% WIND ENERGY BY 2030, *supra* note 69.

⁸⁴ U.S. DEP'T OF ENERGY, 20% WIND ENERGY BY 2030, *supra* note 69, at 7.

⁸⁵ U.S. DEP'T OF ENERGY, 20% WIND ENERGY BY 2030, *supra* note 69, at 7-10.

⁸⁶ NREL, LARGE-SCALE OFFSHORE WIND POWER, *supra* note 61, at 2.

⁸⁷ See *Wind Energy Update*, *supra* note 82.

⁸⁸ See U.S. DEP'T OF ENERGY, NAT'L RENEWABLE ENERGY LABORATORY, ESTIMATES OF WINDY LAND AREA AND WIND ENERGY POTENTIAL BY STATE FOR AREAS \geq 30% CAPACITY FACTOR AT 80M (2010), available at http://www.windpoweringamerica.gov/pdfs/wind_maps_potential_80M_30percent.pdf. An earlier Department of Energy Study estimated that the U.S. has more than 8,000 GW of available land-based wind resources. U.S. DEP'T OF ENERGY, 20% WIND ENERGY BY 2030, *supra* note 69, at 8.

⁸⁹ NREL, LARGE-SCALE OFFSHORE WIND POWER, *supra* note 61, at 4.

⁹⁰ See *Ctr. for Biological Diversity v. FPL Grp.*, 83 Cal. Rptr. 3d 588, 592 (Ct. App. 2008) (discussing impacts of wind farms on birds); Glennon & Reeves, *supra* note 70,

Likewise, large-scale offshore wind farms require construction of transmission lines or the wind farms themselves in state tidal and navigable waters protected by the public trust doctrine or in the federal territorial seas subject to federal environmental protection mandates.

These environmental concerns associated with onshore and offshore wind power set up a potential conflict between the values protected by the public trust doctrine and the public interest in promoting renewable energy through wind power. For instance, a wind farm producing 1,000 MW of power requires 46,000 acres of land compared to 640-1,280 acres of land for a coal or nuclear plant to produce the same amount of power.⁹¹ Of course, these acreage amounts do not include the massive amounts of land necessary to extract coal or store nuclear waste and the environmental externalities associated with the full life-cycle of coal or nuclear power generation. Nevertheless, it is impossible to consider the public interest associated with wind power development without considering the adverse impacts that necessarily flow from such a significant commitment of lands and waters.

Public and private efforts to promote wind energy have focused on: (1) onshore wind development on federal public lands and private lands; and (2) offshore wind projects that impact state submerged lands and waters as well as federal submerged lands and waters. The remainder of this Section discusses current issues associated with onshore and offshore wind development with a particular emphasis on how the public trust doctrine has been used to promote or oppose particular wind energy development projects.

1. Onshore Wind Energy

As of the publication of this Article, all of U.S. wind power comes from onshore wind projects, most of which sit on private lands. Because these projects typically do not impact state submerged lands, the application of the public trust doctrine to onshore wind projects is not always clear. Onshore wind projects, however, do adversely impact wildlife – particularly birds and bats – land use, open space, and aesthetic values, all of which courts in some states have found to

at 103 (discussing intensive land use nature of solar and wind power); MIKE HIGHTOWER, RENEWABLE ENERGY DEVELOPMENT IN THE SOUTHWEST: SUSTAINABILITY CHALLENGES AND DIRECTIONS, SANDIA LABORATORIES, (2009), *available at* www.swhydro.arizona.edu/renewable/presentations/thursday/hightower.pdf.

⁹¹ Glennon & Reeves, *supra* note 70, at 103 (discussing intensive land use nature of solar and wind power); HIGHTOWER, *supra* note 90.

be within the values the public trust doctrine protects. As a result, onshore wind energy both promotes certain public trust values with regard to protecting natural resources and the environment for future generation by reducing greenhouse gas emissions and conflicts with other public trust values, as shown by recent litigation challenging particular wind energy projects.

a. Federal and state policy promoting onshore wind energy

As noted above, in the Energy Policy Act of 2005, Congress directed federal agencies to place at least 10,000 MW of non-hydroelectric renewable energy on public lands.⁹² Moreover, the American Recovery and Reinvestment Act of 2009 provided \$1.6 billion for energy efficiency and renewable energy projects, including \$93 million for wind energy.⁹³ Additionally, the U.S. Department of Interior is making special efforts to spur development of onshore wind energy on federal lands. For instance, federal Interior Department officials are working with federal Fish and Wildlife Service personnel and state officials in Oregon to develop significant wind power in eastern Oregon, 75% of which is federal public land.⁹⁴ This area, which is dominated by ranching and agriculture, is home to important sagebrush steppe habitat critical to the survival of sage grouse, which the Fish and Wildlife Service placed on its list of candidate species for the Endangered Species Act in March 2010.⁹⁵ In the last two years, BLM has approved eighteen applications to conduct wind testing and other development activities on nearly 175,000 acres of federal land in eastern Oregon, and the agency is reviewing twenty-two similar applications over 400,000 acres in the region.⁹⁶ Developers have also submitted applications for three commercial-scale wind farms that would cover nearly 30,000 acres of federal land and several

⁹² ENERGY POLICY ACT OF 2005, Pub. L. No. 109-58, 119 Stat. 594, 660 (codified as amended in scattered sections of 16 U.S.C.A. and 42 U.S.C.A.); Glennon & Reeves, *supra* note 70, at 111.

⁹³ James Spaeth, *Implementing the American Recovery and Reinvestment Act*, U.S. DEP'T OF ENERGY, 14 (Aug. 13, 2009), http://energy.gov/sites/prod/files/ED2/documents/Spaeth_eere.pdf; U.S. DEP'T OF ENERGY, *Recovery Act Announcement: Secretary Chu Announces \$93 Million from Recovery Act to Support Wind Energy Projects* (April 29, 2009), http://apps1.eere.energy.gov/news/progress_alerts.cfm/pa_id=164.

⁹⁴ Scott Streater, *Sage Grouse: Oregon Follows Wyoming Blueprint to Reconcile Energy, Species Priorities*, E&E NEWS, LAND LETTER, Dec. 2, 2010, <http://www.eenews.net/public/Landletter/2010/12/02/1>.

⁹⁵ *Id.*

⁹⁶ *Id.*

transmission projects to bring that energy to population centers.⁹⁷ Some state government officials and environmental groups are concerned that BLM's multiple use approach to land management could allow the federal government to preference this new form of energy development on federal lands over recreation and conservation values.⁹⁸

Although wind energy testing and permit applications have increased significantly on a nationwide basis in recent years, particularly as operators attempt to take advantage of federal stimulus money, the actual siting of such projects has been difficult in large part because of the inevitable land use conflicts that arise with such a land-intensive industry. For instance, the BLM suspended issuing wind permits on public land in California and other western states indefinitely during the summer of 2010 after wildlife officials cited conflicts with federal laws protecting eagles, which may be adversely impacted by the proposed projects.⁹⁹ Because of these concerns along with potential conflicts with Department of Defense radar equipment, only two of the more than 250 currently proposed wind energy projects on those lands have been approved and neither has been built.¹⁰⁰ As of December 2010, there were twenty-eight wind farms operating on public lands, even though more than 800 have been proposed in recent years.¹⁰¹

Instead, the vast majority of wind power in the United States is on private lands, in part because of the complex federal environmental review required for siting such projects on public lands. For instance, in December 2010, the Department of Energy granted \$1.4 billion in federally-backed financing for what will be the world's largest wind farm in eastern Oregon on private lands. The 845 MW Shepherds Flat project for the Columbia River Gorge will have 338 turbines and can power 250,000 homes.¹⁰² Projects on private and state lands are

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ Noaki Schwartz & Jason Dearen, *AP Enterprise: Wind Farms on Public Land Stymied by Eagle Concerns, Radar Interference*, MINNEAPOLIS STAR TRIB., Dec. 13, 2010.

¹⁰⁰ *Id.*

¹⁰¹ *Id.* But see Lee van der Voo, *BLM: Wind Development OK on Public Land*, SUSTAINABLE BUS. OR., Dec. 21, 2010 (reporting that BLM Oregon, which manages 15,707,047 acres in Oregon and 436,848 in Washington will continue to permit wind development on public lands, despite efforts by U.S. FWS to set new guidelines for siting wind turbines in order to protect eagles and migratory birds and despite reports that BLM offices in California had suspended wind development on public lands until the FWS guidelines were complete).

¹⁰² Debra Kahn, *Sprawling Ore. Project Secures DOE Backing*, GREENWIRE (Dec. 21,

generally subject exclusively to state and local regulation, except in cases where a federal permit is required or where the project may impact federally-protected species.¹⁰³

Like the federal government, states have enacted significant policies in recent years to promote wind energy. More than twenty states now have RPS requirements that create incentives for utilities to work with private industry to get more wind power into the electricity grid.¹⁰⁴ Moreover, states have a variety of incentives, subsidies, and regulatory frameworks to make wind power more economical and profitable.¹⁰⁵ These wind farms, however, have been subject to significant challenges by environmental groups, neighbors, and other opponents as a result of the impact of the projects on wildlife, their contribution to noise pollution, their intensive land use, and their impact on open space and aesthetic values. These issues are discussed below.

b. Conflicts over onshore wind projects and the public trust doctrine

In recent years, there have been numerous lawsuits across the country involving onshore wind energy projects, focusing in large part on complaints by neighbors and environmental groups over avian impacts, noise pollution, aesthetic concerns, setback issues, and local government opposition to wind energy systems based on such citizen concerns.¹⁰⁶ These lawsuits include claims based on local zoning law,

2010), <http://www.eenews.net/Greenwire/2010/12/21/4>; *Caithness Shephards Flat: The Largest Wind Farm Project in the World*, U.S. DEP'T OF ENERGY BLOG (OCT. 12, 2010, 5:04 PM), available at <http://energy.gov/articles/caithness-shephards-flat-largest-wind-farm-project-world>.

¹⁰³ *Caithness Shephards Flat: The Largest Wind Farm Project in the World*, *supra* note 102.

¹⁰⁴ See Alexandra B. Klass, *Property Rights on the New Frontier: Climate Change, Natural Resource Development, and Renewable Energy*, 38 *ECOLOGY L.Q.* 63, 75 (2011).

¹⁰⁵ See *id.* at 74-75, 102-07 (summarizing federal and state regulatory frameworks and incentives for renewable energy).

¹⁰⁶ See, e.g., *Muscarello v. Ogle Cnty.*, 610 F.3d 416 (7th Cir. 2010) (rejecting property owner's takings claim and other challenges to county's approval of special use permit for windmills on adjacent property); *Clark Cnty. v. Fed. Aviation Admin.*, 522 F.3d 437 (D.C. Cir. 2008) (finding that FAA had not performed proper review of wind farm and its effects on local airport); *Ten Taxpayers Grp. v. Cape Wind Assocs.*, 373 F.3d 183, 196 (1st Cir. 2004) (allowing for the construction of wind measuring devices off the coast of Massachusetts over the objections of environmental groups); *Christian v. Town of Riga*, No. 08-CV-6557T, 2009 WL 63049 (W.D.N.Y. Jan. 6, 2009) (rejecting plaintiffs' constitutional claim based on city official's refusal to grant permit for residential windmill); *Animal Welfare Inst. v. Beech Ridge Energy LLC*, 675 F. Supp. 2d 540 (D. Md. 2009) (granting injunctive relief to limit operation of wind turbines that endangered Indiana bat population); *Ecogen v. Town of Italy*, 438 F. Supp. 2d 149, 151 (W.D.N.Y. 2006) (stating that moratorium wind energy

nuisance law, takings, and allegations that state or local agencies have abused their discretion in granting permits for wind farms.¹⁰⁷

Not surprisingly, the public trust doctrine is no stranger to this spate of litigation over onshore wind development. For instance, in *Center for Biological Diversity v. FPL Group*, the Center for Biological Diversity sued the owners and operators of wind turbine electric generators in the Altamont Pass Wind Resource Area in Alameda County and Contra Costa County, California, one of the largest and oldest wind farms in the United States.¹⁰⁸ Between 1981 and 2005, Alameda County issued forty-six permits for operation of over 5,000 wind turbine generation facilities over a 40,000-acre area.¹⁰⁹ Because of

development did not on its face violate developer's substantive due process rights despite the fact that moratorium was enacted after significant steps toward development had already occurred); *Flint Hills Tallgrass Prairie Heritage Found. v. Scottish Power*, No. 05-1025, 2005 WL 427503 (D. Kan. Feb. 22, 2005) (dismissing claim against wind developer on grounds that plaintiffs did not have private cause of action); *Ctr. for Biological Diversity v. FPL Grp.*, 83 Cal. Rptr. 3d 588 (Ct. App. 2008) (rejecting environmental group claims on grounds that regulatory agency properly considered impacts on birds); *Kerncrest Audubon Soc'y v. L.A. Dep't of Water & Power*, No. F050809, 2007 WL 2208806 (Cal. Ct. App. Aug. 2, 2007) (dismissing challenge to wind farm based on state environmental review laws); *Centerville's Concerned Citizens v. Town of Centerville*, 867 N.Y.S.2d 626 (App. Div. Nov. 14, 2008) (rejecting changes in local zoning law that were not subject to proper state environmental review); *Finger Lakes Pres. Ass'n v. Town of Italy*, 887 N.Y.S.2d 499 (N.Y. Super. Ct. 2009) (dismissing residents' complaints relating to siting process and noise); *Rankin v. FPL Energy LLC*, No. 11-07-00074, 2008 WL 3864829 (Tex. Ct. App. Aug. 21, 2008) (rejecting nuisance claim filed by neighbors of proposed wind farm based on loss of view and noise complaints); *Residents Opposed to Kittias Turbines v. State Energy Facility Site Evaluation Council*, 197 P.3d 1153 (Wash. 2008) (affirming authority of state to preempt local zoning decision to deny permit to wind farm); *Birch v. Nedpower Mount Storm*, 647 S.E.2d 879 (W. Va. 2007) (allowing development of wind energy facility over local resident objections but providing that landowners could seek compensation for loss of property values); Girard P. Miller, *Developers See Green and Neighbors See Red: A Survey of Incentives and Mandates for the Development of Alternative Energy and the Unfolding Challenges*, 3 TEX. J. OIL, GAS & ENERGY L. 117, 139 (2008) (discussing litigation challenging authority to construct meteorological tower); Patricia E. Salkin & Ashira Pelman Ostrow, *Cooperative Federalism and Wind: A New Framework for Achieving Sustainability*, 37 HOFSTRA L. REV. 101 (2009) (stating that "the intensity of local opposition has prompted one prominent energy siting consulting to remark that 'wind energy is fast becoming the mother of all NIMBY wars'").

¹⁰⁷ See *supra* note 106.

¹⁰⁸ 83 Cal. Rptr. 3d 588, 592.

¹⁰⁹ *Id.* at 591-92. As of 1995, the Altamont Pass wind farm together with wind farms in Tehachapi (south east of Bakersfield) and San Geronio (near Palm Springs, east of Los Angeles) produced 95% of wind energy in California and 30% of the entire world's wind-generated electricity. See *Overview of Wind Energy in California*, THE CAL. WIND ENERGY COMM'N, <http://www.energy.ca.gov/wind/overview.html> (last visited

the age of many of the wind turbines, plaintiffs alleged that the turbines were obsolete and, more important for purposes of this litigation, much more dangerous to eagles, hawks, falcons, owls, and other raptors and non-raptors than modern turbines.¹¹⁰ In its complaint, the plaintiffs alleged that since the 1980s, the generators had killed tens of thousands of birds, including between 17,000 and 26,000 raptors (including more than a thousand Golden Eagles and thousands of hawks).¹¹¹

Although the initial complaint in 2005 alleged numerous causes of action, by the time the case reached the California Court of Appeals, the only issue remaining was whether the defendants' alleged destruction of wildlife violated the state public trust doctrine.¹¹² Although the plaintiffs did not prevail on the merits, the court, in a fairly detailed opinion, provided an expansive view of the public trust doctrine as it applies to wildlife, and attempted to balance the public interest in renewable energy development with public trust principles.

With regard to the public trust doctrine, the court of appeals held that the doctrine in California applies to wildlife in general and is not limited to tidelands or navigable waters as defendants attempted to argue.¹¹³ The court noted that while the public trust doctrine evolved primarily around the rights of the public with respect to tidelands and navigable waters, the California Supreme Court "has unequivocally embraced and expanded the scope of the public trust doctrine."¹¹⁴ Citing and quoting the *Mono Lake* case, the court focused on the public recognition in that case that

one of the most important public uses of the tidelands – a use encompassed within the tidelands trust – is the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area.¹¹⁵

Nov. 27, 2011).

¹¹⁰ 83 Cal. Rptr. 3d at 592.

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.* at 595-97.

¹¹⁴ *Id.* at 596.

¹¹⁵ *Id.* at 596 (quoting *Nat'l Audubon Soc'y v. Super. Ct.*, 658 P.2d 709 (Cal. 1983)).

The court further noted that the *Mono Lake* case and other prior precedent had focused on the public trust doctrine in the context of protecting habitat for wildlife in bodies of water, but that “neither the holdings, analysis or dicta suggest that bird life or other wildlife are not within the scope of the public trust doctrine.”¹¹⁶ Thus, “whatever its historical derivation, it is clear that the public trust doctrine encompasses the protection of undomesticated birds and wildlife,” that they “are natural resources of inestimable value to the community as a whole,” and that their protection and preservation “is a public interest that is now recognized in numerous state and federal statutory provisions.”¹¹⁷ Notably, the court focused not just on the common law public trust doctrine in reaching its conclusion on this issue, but used state and federal statutory support to bolster its holding, consistent with the idea that the common law, statutes, and in some cases state constitutions can work together to protect more general public trust principles.¹¹⁸

The court of appeals also held that members of the public may enforce the public trust doctrine.¹¹⁹ The court found that “the concept of a public trust over natural resources unquestionably supports exercise of the police power by public agencies” but that “the public trust doctrine also places a *duty* upon the government to protect those resources.”¹²⁰ However, because the obligation to uphold the doctrine is on the government, not private parties who have been permitted to act, the plaintiffs’ lawsuit against the defendant wind farm operators in this case could not go forward.¹²¹ Instead, the plaintiffs should have brought their public trust doctrine claim against the county authorities that permitted the wind turbines, and the time for bringing such an action had long since passed.¹²²

In reaching that decision, the court reasoned that the plaintiffs should not be allowed to “bypass” the state and county agency expertise applied in the environmental review and permitting

¹¹⁶ *Id.* at 597.

¹¹⁷ *Id.* at 599.

¹¹⁸ *See id.* at 599-600 (“For purposes of deciding the issues presented in this case, it matters not whether the obligations imposed by the public trust are considered to be derived from the common law or from statutory law, or from both. Either way, public agencies must consider the protection and preservation of wildlife although, as the Supreme Court indicates, the contours of the obligation are, ‘[g]enerally speaking’, defined by statute.”) (citations omitted).

¹¹⁹ *Id.* at 600-01.

¹²⁰ *Id.* at 601 (emphasis in original).

¹²¹ *Id.* at 602-03.

¹²² *Id.* at 606.

proceedings.¹²³ It is at this point in the opinion that the court focused on the other public interest at work in the case – the desire for increased renewable energy. The court stated that there “unquestionably is a strong public interest in utilizing wind power as a source of energy” and cited both federal and state law designed to “foster the development of wind power” and “to recognize the importance of wind power as a clean, renewable source of energy.”¹²⁴ The court detailed the efforts of the county board and other agencies to “strike a balance between the generation of clean renewable energy with wind turbines and the protection of raptors and other birds adversely affected by the turbines.”¹²⁵ Thus, according to the court, state and local governments have an obligation under the public trust doctrine to take the concerns of wildlife and natural resources into account, but it was not for the courts “to perform an ongoing regulatory role as technology evolves and conditions change” beyond “exercising oversight over the administrative process and ensuring that proper standards are applied.”¹²⁶

In sum, the court in *Center for Biological Diversity* recognized the public trust doctrine protection afforded to wildlife and held that private parties have a right to enforce the public trust doctrine against state and local decision-makers, although not against private parties acting pursuant to state or local permits. The court also described a public trust doctrine that is not based solely in common law, but is informed by subsequent statutory and regulatory developments to create potentially robust protection of wildlife and natural resources both within and beyond tidelands and navigable waters. At the same time, however, the court, in what might be considered a retreat from *Mono Lake*, staked out its role as one reviewing the administrative process but not questioning the decisions made by those policymakers and regulators, particularly in an area, like wind energy, that is “both highly complex and value laden.”¹²⁷ Thus, unlike the Supreme Court in *Illinois Central*, which held that it was up to the courts to enforce the public trust regardless of legislative policymaking, the California Court of Appeals appeared to give the courts a more limited role, at least in situations that involve technical complexity, circumstances where regulators appear to have taken public trust values into account

¹²³ *Id.* at 603.

¹²⁴ *Id.* at 604.

¹²⁵ *See id.* at 603-04.

¹²⁶ *Id.* at 605.

¹²⁷ *See id.* at 605.

in coming to a decision, and cases that do not involve the complete relinquishment of public trust lands or values.

2. Offshore wind energy

Although the U.S. has yet to build the first offshore wind energy project (the Cape Wind project discussed below received the first federal offshore wind project lease in 2010), experts agree that offshore wind resources can play a significant role in increasing the percentage of renewable energy resources in this country. As noted earlier, according to the U.S. Department of Energy, it is realistic to project that wind power can supply 20% of the country's electricity by 2030, with offshore wind power providing approximately one-sixth of that amount.¹²⁸ Offshore wind energy is attractive because: (1) offshore winds tend to blow harder and more uniformly than onshore winds, thus providing increased electricity generation and steadier operation than onshore wind power; and (2) offshore wind projects are closer to major U.S. coastal cities, which reduce transmission challenges as compared to inland large-scale wind farms, which are often far from population centers.¹²⁹

Even where the turbines for offshore wind projects are located entirely in federal waters (as is the case with the Cape Wind project), most such projects will require transmission lines and other support that will impact state submerged lands and waters.¹³⁰ Thus, these projects, unlike the onshore wind energy projects discussed earlier, implicate even the narrowest form of the public trust doctrine because of the impact these projects have on state submerged lands and waters.¹³¹ The remainder of this section details federal and state policy regarding offshore wind energy and the conflicts that have arisen over these projects, with a particular focus on the public trust doctrine.

¹²⁸ See U.S. DEP'T OF ENERGY, 20% WIND ENERGY BY 2030, *supra* note 69, at 9; NREL, LARGE-SCALE OFFSHORE WIND POWER, *supra* note 61, at 1.

¹²⁹ NREL, LARGE-SCALE OFFSHORE WIND POWER, *supra* note 61, at 3; see also Christa Marshall, *Developers of the "Spine" for Offshore Atlantic Wind Farms Emphasize Efficiency in New Filing*, CLIMATEWIRE, Dec. 21, 2010 (reporting on proposal by Google, Inc., Marubeni Corps., and Good Energies to finance a \$5 billion transmission "spine" to bring wind power from the Atlantic Ocean to coastal cities through a 350-mile direct-current line from Northern New Jersey to Virginia supporting 6,000 MW of electricity, or 1.9 million households); Mathew W. Wald, *Offshore Wind Power Line Wins Backing*, N.Y. TIMES, Oct. 12, 2010, at A1 (same).

¹³⁰ See, e.g., *Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Bd.*, 932 N.E.2d 787 (Mass. 2010) ("*Alliance II*") (discussing Cape Wind project).

¹³¹ See Sax, *supra* note 14, at 556 (noting that historically the public trust doctrine had been applied narrowly to lands underlying navigable waters).

a. Federal and state policy promoting offshore wind energy

The U.S. regulates use and access to the territorial seas and EEZ through the Outer Continental Shelf Lands Act of 1953 (“OCSLA”), which establishes procedures by which the U.S. leases rights to oil and gas development in these waters and regulates other activities.¹³² More recently, the Energy Policy Act of 2005 authorized the U.S. to grant leases and easements for renewable energy development on the outer continental shelf (“OCS”).¹³³ Also, the American Recovery and Reinvestment Act of 2009 provided \$1.6 billion for energy efficiency and renewable energy projects, including \$93 million for wind energy.¹³⁴

According to the U.S. Department of Interior, the Obama Administration considers developing renewable domestic energy supplies through offshore wind a “top priority” in order to “strengthen the nation’s security, generate new jobs for American workers and reduce carbon emissions.”¹³⁵ In November 2010, U.S. Department of Interior Secretary Ken Salazar announced a “Smart from the Start” wind energy initiative for the Atlantic OCS.¹³⁶ This plan was designed to facilitate siting, leasing, and construction of new projects in order to encourage “the rapid and responsible development of this abundant renewable resource.”¹³⁷

Through the initiative, the Interior Department intends to identify priority wind energy areas for potential development; improve coordination with local, state, and federal entities; and speed up the leasing process by making it more efficient and “unburdened by needless red tape.”¹³⁸ The initiative is modeled on current efforts being used to launch major solar energy projects on federal public lands in the West.¹³⁹ In identifying Wind Energy Areas through this initiative,

¹³² See Outer Continental Shelf Lands Act of 1953, Pub. L. No. 83-212, 67 Stat. 462, 463 (codified as amended in 43 U.S.C. §§ 1301-1356a (2006)); Turnipseed et al., *supra* note 59, at 35.

¹³³ 43 U.S.C. § 1337(p) (2006).

¹³⁴ U.S. Department of Energy, *Implementing the American Recovery and Reinvestment Act*, *supra* note 93.

¹³⁵ Frequently Asked Questions, U.S. Dep’t of Interior, “Smart from the Start” Atlantic OCS Offshore Wind Initiative, *available at* www.doi.gov/news/pressreleases/upload/02-07-10-wea-fact-sheet.pdf (last visited Nov. 23, 2011).

¹³⁶ News Release, U.S. Dep’t of Interior, Salazar Launches ‘Smart from the Start’ Initiative to Speed Offshore Wind Energy Development off the Atlantic Coast (Nov. 23, 2010).

¹³⁷ *Id.*

¹³⁸ *Id.*

¹³⁹ *Id.*

the Interior Department is focusing on areas with “bountiful wind energy” and relatively fewer potential environmental and use conflicts than other offshore areas.¹⁴⁰ Heading up this effort is the Bureau of Ocean Energy Management, Regulation, and Enforcement (“BOEM”) (formerly known as the Minerals Management Service), which will initiate review of potential projects under NEPA, offer leases in Wind Energy Areas, and move forward “aggressively” to process applications to build offshore transmission lines.¹⁴¹

Considered apart from any particular offshore wind project in any particular location, the federal government, states, nonprofit groups, and other proponents have heralded wind energy as a “zero-emissions generation technology that will increase energy security, attract economic development, and improve environmental quality.”¹⁴² Indeed, in states with extensive offshore wind resources, such as California, Massachusetts, and Maine, the resource potential for offshore wind exceeds total electricity generation for those states by a large margin.¹⁴³

Although the U.S. has not yet built any offshore wind projects, about twenty projects representing more than 2,000 MW of capacity are in the planning and permitting process.¹⁴⁴ In the Energy Policy Act of 2005, Congress gave jurisdiction over leasing federal waters to offshore wind energy to the Minerals Management Service (now known as BOEM) within the Interior Department.¹⁴⁵ The Interior Department issued final rules governing leases, easements, and rights of way for offshore wind on the OCS (which covers the same area as the EEZ) in April 2009.¹⁴⁶ As required by the enabling legislation, the rules require BOEM to coordinate with other federal agencies, states, and stakeholders; address environment concerns and potential interferences with other uses of the sea and seabed; and perform oversight, inspection, research, monitoring, and enforcement.¹⁴⁷

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² See NREL, LARGE-SCALE OFFSHORE WIND POWER, *supra* note 61, at 33.

¹⁴³ *Id.* at 35-37 (chart showing offshore wind resource potential as a percentage of total electricity generation by state).

¹⁴⁴ *Id.* at 2. As of June 2010, Europe had more than 830 offshore wind turbines with grid connections to nine European countries totaling 2,300 MW of installed wind capacity, with another 1,000 to be installed in 2010 and additional 50,000 MW planned or under development after 2010. *Id.*

¹⁴⁵ *Id.* at 7, 138.

¹⁴⁶ *Id.* at 7, 135.

¹⁴⁷ *Id.* at 138-39.

After nine years in the permitting process, the Cape Wind project off the coast of Massachusetts was offered the first commercial lease by the Interior Department in 2010.¹⁴⁸ Because applications for Cape Wind and one other offshore wind project were pending prior to the final BOEM rules, those projects were subject to both the BOEM rules as well as existing rules of the U.S. Army Corps of Engineers for permits in federal waters under the Rivers and Harbors Act.¹⁴⁹ As of June 2010, thirteen projects were well into the state and federal offshore wind permitting process. Six projects are proposed for federal waters and, thus, are subject to federal regulatory review, while seven projects are proposed for state waters and, thus, are subject to state regulatory review.¹⁵⁰ For projects like Cape Wind, although the project is in federal waters, transmission lines run through state waters, requiring state regulatory review for that portion of the project.

b. Conflicts over offshore wind projects and the public trust doctrine

To date, the most celebrated controversy over offshore wind development is the Cape Wind project off the coast of Massachusetts. Cape Wind is a \$1 billion project with 130 turbines in Nantucket Sound that has been subject to state and federal environmental review, permitting review, and litigation for nearly a decade. In October 2010, however, Interior Secretary Ken Salazar signed a 28-year lease for the project and soon after, Massachusetts utility regulators approved an agreement to buy half the electricity produced by the project.¹⁵¹ Because the project is more than three miles off the Massachusetts coast, it is entirely in federal waters and, thus, the project itself is subject only to federal permitting.¹⁵² In order to connect the wind farm to the regional power grid, however, it is necessary to lay transmission lines under Massachusetts territorial waters, thus requiring state and local permits and licenses for the project and implicating the state public trust doctrine.¹⁵³

In 2005, the Massachusetts Energy Facilities Siting Board approved the petition by Cape Wind Associates to build and operate the underground and undersea electric transmission cables. Following a

¹⁴⁸ *Id.* at 7, 150-51.

¹⁴⁹ *Id.* at 29-30, 140.

¹⁵⁰ *Id.* at 30-33.

¹⁵¹ See David Zax, *Inching Toward Offshore Wind*, FAST COMPANY, Dec. 2, 2010, available at <http://www.fastcompany.com/1706908/inching-towards-offshore-wind>.

¹⁵² See *Alliance to Protect Nantucket Sound v. Energy Facilities Siting Bd. (Alliance II)*, 932 N.E.2d 787, 791-92 (Mass. 2010).

¹⁵³ See *id.* at 791-92.

legal challenge, the Massachusetts Supreme Court affirmed the siting board's decision in 2006 in *Alliance to Protect Nantucket Sound v. Energy Facilities Siting Board* (“*Alliance I*”).¹⁵⁴ Actual construction of the transmission lines, however, required additional permits, licenses, and approvals from a number of agencies. After the project received those approvals, project opponents challenged, among other things, the authority of the siting board to include in its certificate of environmental impact and public interest (known as a § 69K certificate) any license relating to work in state tidelands (known as a “c. 91 tidelands license”) in *Alliance II*.¹⁵⁵ According to the petitions, the state law giving the siting board authority to grant § 69K certificates contains no language of delegation or mention of the tidelands or public trust with which they are embedded.¹⁵⁶ Thus, the siting board could not grant a certificate that incorporates a c. 91 tidelands license.¹⁵⁷

The state supreme court rejected the argument that the siting board's grant of authority to work in tidelands violated the state public trust doctrine.¹⁵⁸ The court began by stating that the public trust doctrine “expresses the government's long-standing and firmly established obligation to protect the public's interest in the tidelands and, in particular, to protect the public's right to use the tidelands ‘for, traditionally, fishing, fowling, and navigation.’”¹⁵⁹ The court found there was “no question” that the Commonwealth tidelands through which Cape Wind's transmission lines will pass were held in the public trust, and that under the public trust doctrine, only the Commonwealth or an entity to which the state legislature has properly delegated authority may administer public trust rights.¹⁶⁰ The court then found that the legislature had delegated to the state department of environmental protection (“DEP”) the authority to license “structures” in the tidelands and protect the interests of the Commonwealth in the tidelands.¹⁶¹ The court also found that § 69K in

¹⁵⁴ *Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Bd. (Alliance I)*, 858 N.E.2d 294, 295 (2006).

¹⁵⁵ *See Alliance II*, 932 N.E.2d at 794-95, n.13, 798.

¹⁵⁶ *See id.* at 798.

¹⁵⁷ *Id.* at 796, 798. Massachusetts law defines “tidelands” as “present and former submerged lands and tidal flats lying below the mean high water mark.” *Id.* at 798, n.25.

¹⁵⁸ *Id.* at 801-02.

¹⁵⁹ *Id.* at 799 (quoting *Moot v. Dep't of Env'tl. Prot.*, 861 N.E.2d 410, 412 (2007) (“*Moot I*”).

¹⁶⁰ *Id.* at 799.

¹⁶¹ *Id.* at 799.

turn granted authority to the siting board to issue certificates of environmental impact and public interest that encompass all permits and certificates that would be issued by other agencies for electric power facilities.¹⁶² Thus, the court interpreted § 69K as an express legislative directive to the siting board to stand in the shoes of any and all state and local agencies with permitting authority over a facility.¹⁶³

Accordingly, because the legislature had delegated responsibility for protecting public trust rights to DEP, where a tidelands license was necessary for a proposed facility, § 69K expressly vested authority in the siting board to act in DEP's stead with regard to the initial permitting decision.¹⁶⁴ The court distinguished prior cases finding that there had not been a sufficiently articulated legislative delegation of authority to agencies to either relinquish public rights in tidelands or to delegate authority to administer public trust rights and duties.¹⁶⁵ The court also concluded that the siting board did not err when it refused to consider the in-state impact of the wind farm (as opposed to the transmission lines) because the wind farm was wholly within federal waters. The court also relied on the fact that other state and federal regulators had given the project significant scrutiny in related administrative proceedings.¹⁶⁶

Chief Justice Marshall (joined by Justice Spina) wrote a strong concurrence and dissent, addressing not only the narrow issue of legislative authority under § 69K but the broader policies embedded in the public trust doctrine and potential future conflict with renewable energy development.¹⁶⁷ She argued in her concurrence and dissent that the siting board did not have and the state legislature did not intend for them to have the right to act as a fiduciary on behalf of the people of the Commonwealth with regard to tidelands or "to approve energy projects up and down the coastline of Massachusetts in Commonwealth tidelands."¹⁶⁸ The Chief Justice further stated that it may be that the legislature or its authorized designee, acting as a fiduciary, could authorize transmission cables stretching across the

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ *Id.* at 799-800.

¹⁶⁵ *Id.* at 801 (citing case where DEP exceeded its authority by exempting filled and landlocked tidelands from c. 91 licensing requirements and case where there was no grant of authority by the state legislature and thus local conservation commission could not exercise public trust rights and effort to do so was invalid).

¹⁶⁶ *Id.* at 805-06.

¹⁶⁷ *Id.* at 816 (Marshall, C.J., dissenting).

¹⁶⁸ *Id.* at 816.

tidelands but that such a valid authorization had not yet occurred.¹⁶⁹ She concluded that that court's ruling "establishes a dangerous and unwise precedent, which has far reaching consequences. A wind farm today may be a drilling rig or a nuclear power plant tomorrow."¹⁷⁰

Chief Justice Marshall also expressed concern regarding the majority's finding that the siting board acted appropriately in granting the certificate without considering any of the in-state impacts of the wind farm itself (as opposed to the transmission lines). The majority had excluded those impacts on grounds that such consideration would be inappropriate because the wind farm was entirely within federal waters.¹⁷¹ She pointed to "[c]enturies of legislation and jurisprudence concerning the paramount rights of the people of the Commonwealth to the use of the sea and shore" as the basis for the dissent and noted that in this case, the "stakes are high."¹⁷² She cited to the BP Oil Spill in the Gulf of Mexico and noted that "the failure to take into account in-State consequences of federally authorized energy projects in Federal waters can have catastrophic effects on State tidelands and coastal areas, and on all who depend on them."¹⁷³

The majority and dissenting opinions present several notable features for purposes of this Article. First, while the majority focused fairly narrowly on the approval of the transmission lines in state tidelands in upholding the tidelands permit, the dissent used the state public trust doctrine to consider more broadly the impact of not only the transmission lines but the wind farm as a whole on state public trust values.¹⁷⁴ Second, the majority did not in any way attempt to opine on the benefits or risks associated with renewable energy or the project itself. It did not rely on any state legislative support for renewable energy to justify the decision nor did it explore any risks with energy development in general. Instead, consistent with the tenor of the opinion as a whole, it focused narrowly on the transmission lines and whether the statutory language delegating authority to grant certificates of environmental impact and public interest for electric transmission projects was sufficient to delegate authority to administer public trust rights for purposes of granting the tidelands permit.¹⁷⁵

¹⁶⁹ *Id.*

¹⁷⁰ *Id.*

¹⁷¹ *Id.* at 816.

¹⁷² *Id.*

¹⁷³ *Id.*

¹⁷⁴ *Cf. id.* at 805-06 (majority opinion); *id.* at 816 (concurring and dissenting opinion).

¹⁷⁵ *Id.* at 799-06.

By contrast, the dissent criticized the siting board and the majority for abdicating public trust values through errors of statutory interpretation with regard to the delegation question.¹⁷⁶ The dissent also criticized the siting board's refusal to consider as a matter of common law the risks to public trust values inherent in the wind farm project as a whole.¹⁷⁷ Notably, the dissent did not recognize the project as one with any inherent public interest as a renewable energy project.¹⁷⁸ Instead, the dissent compared it to the BP Oil Spill, a nuclear plant, or any other energy-related development with potentially disastrous consequences.¹⁷⁹

Putting aside the state law public trust disputes over the project arising from the transmission lines, the Cape Wind project itself will be built entirely in federal waters. As a result, it has been subject to federal agency and judicial review. In a 2005 decision, the U.S. Court of Appeals for the First Circuit found that the Army Corps acted consistent with the OCSLA Act and NEPA in granting a permit to Cape Wind under the Rivers and Harbors Act for the construction of a scientific measurement device station in the OCS.¹⁸⁰ Although the public trust doctrine was not at issue in the case,¹⁸¹ the court conducted an analysis of the OCSLA and other applicable statutes to determine that the Army Corps was within its authority in granting the permit.¹⁸²

In sum, the Cape Wind decisions raise several issues related to the public trust doctrine that will likely appear in future disputes over offshore wind projects. Projects in federal waters, like Cape Wind, will in many cases raise concerns regarding whether the public trust doctrine applies at all to federal decisions regarding renewable energy projects in federal waters. Most projects in federal waters will also impact state submerged lands and waters; thus, courts in coastal states will need to apply their own public trust doctrine to state permitting decisions. As a result, it is in the context of offshore wind that the public trust doctrine is raised most directly — expressly for impacts

¹⁷⁶ *Id.* at 815-21.

¹⁷⁷ *Id.* at 821-24.

¹⁷⁸ *Id.* at 816.

¹⁷⁹ *Id.*

¹⁸⁰ *See Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of the Army*, 398 F.3d 105, 107-08 (1st Cir. 2005).

¹⁸¹ As noted earlier, in the permit proceedings the Army Corps disavowed any application of the public trust doctrine to federal actions in federal waters. *See supra* notes 63-67 and accompanying text.

¹⁸² *See Alliance to Protect Nantucket Sound*, 398 F.3d at 108-16.

on state submerged lands and waters and impliedly, if at all, for impacts on federal submerged lands and waters. Ultimately, of course, under the Supremacy Clause,¹⁸³ Congress and authorized federal agencies could approve a project regardless of state public trust concerns if the federal government wished to promote a particular renewable energy project, like Cape Wind, or renewable energy in general and clearly expressed that it intended to override state law to the contrary. In the absence of such as express override of state law, however, the role of the public trust doctrine may be significant in states like California, Louisiana, New Jersey, and Hawaii, which have a history of using the doctrine for protection of or access to coastal areas, beaches, tidelands, navigable waters, and in some cases, for environmental protection purposes.¹⁸⁴

B. Solar Energy

Although solar energy currently represents less than 1% of U.S. electric power,¹⁸⁵ the Obama Administration and states in the Southwest, particularly California and Arizona, have placed significant emphasis on developing and approving large-scale solar projects on state and federal lands. By way of background, solar energy is harnessed mainly through the use of photovoltaic (PV) and concentrating solar power (CSP).¹⁸⁶ As of 2009, the total PV and CSP electric power capacity installed in the United States was just over 2,000 MW.¹⁸⁷ PV systems, which allow for solar energy production on a smaller level, are generally made up of ground mounted or roof mounted panels containing several individual solar cells or a single

¹⁸³ The Supremacy Clause provides that “[t]his Constitution and the Laws of the United States which shall be made in Pursuance thereof . . . shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.” U.S. CONST. art. VI, cl. 2.

¹⁸⁴ See Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 707-41; *supra* note 10 and accompanying text; *infra* notes 228-31 and accompanying text.

¹⁸⁵ See *Renewable Energy Consumption and Electricity Preliminary Statistics 2009*, U.S. ENERGY INFO. ADMIN., (Aug. 2010), http://www.eia.doe.gov/cneaf/alternate/page/renew_energy_consump/rea_prereport.html (indicating that solar energy made up a 1% market share for total consumer energy in 2009).

¹⁸⁶ See *Solar Technology and Products*, SOLAR ENERGY INDUS. ASS’N (2009), http://www.seia.org/cs/solar_technology_and_products.

¹⁸⁷ See *U.S. Solar Industry Year in Review 2009*, SOLAR ENERGY INDUS. ASS’N, 2 (2010), <http://www.seia.org/galleries/default-file/2009%20Solar%20Industry%20Year%20in%20Review.pdf>.

thin layer.¹⁸⁸ PV solar systems are used primarily in commercial and residential development and thus have minimal application in the public lands setting.

By contrast, CSP technology converts solar power into thermal energy by using mirrors or lenses to concentrate radiation onto a receiver.¹⁸⁹ The most cost-effective size for a CSP plant is one with a large MW capacity, which means such plants are typically associated with energy suppliers to utilities or with utilities themselves.¹⁹⁰ Moreover, because of their large size, many of them are proposed to be located on public lands.¹⁹¹ CSP plants are very land-intensive, requiring thousands of acres to more than ten square miles for a single solar plant.¹⁹² For instance, the Imperial Valley solar plant in California which the Interior Department approved in 2010 will cover ten square miles of desert fourteen miles west of El Centro, California.¹⁹³ As discussed below, the land-intensive nature of these projects and their frequent siting on public lands makes it inevitable that such development will come into conflict with existing public trust resources.

1. Federal and state policies promoting solar energy

In October 2010, Interior Secretary Ken Salazar approved the first large-scale solar energy projects on public lands.¹⁹⁴ As of December 2010, nine such projects had been approved on BLM lands in California and Nevada through the Interior Department's "fast-track initiative."¹⁹⁵ These projects combined will generate over 3,572 MW of

¹⁸⁸ See Kline, *supra* note 72, at 392.

¹⁸⁹ See *Concentrating Solar Power: Utility-Scale Solutions for Pollution-Free Electricity*, SOLAR ENERGY INDUS. ASS'N, 1 (2009), http://seia.org/galleries/pdf/factsheet_csp.pdf.

¹⁹⁰ See Kline, *supra* note 72, at 392.

¹⁹¹ See SOLAR ENERGY INDUS. ASS'N, *supra* note 186; Felicity Barringer, *A Soft Spot for Public Lands*, N.Y. TIMES GREEN BLOG, Oct. 6, 2010, available at <http://green.blogs.nytimes.com/2010/10/06/a-soft-spot-for-public-lands/>.

¹⁹² See Barringer, *A Soft Spot for Public Lands*, *supra* note 191 (reporting on the fact that "solar and wind projects require a very large footprint to even begin to generate the power that an average coal-fired plant does").

¹⁹³ See *id.*

¹⁹⁴ See News Release, U.S. Dep't of Interior, Salazar Green-Lights First-Ever Solar Energy Projects on Public Lands (Oct. 5, 2010).

¹⁹⁵ See William H. Carlile, *Department of Interior Gives Green Light to Solar Facility on Public Lands in Nevada*, 244 DAILY ENVT. REPORT A-2, Dec. 22, 2010 (reporting on Secretary Salazar's approval of construction of a 110 MW solar power plant on BLM lands in Nevada, the Crescent Dunes project, that will be capable of powering 75,000

electricity – enough to power nearly 3 million homes.¹⁹⁶ These decisions authorize the BLM to grant rights-of-way to use public lands for solar energy for decades so long as permit conditions are met.¹⁹⁷ Also, in December 2010, Secretary of Interior Salazar and Secretary of Energy Steven Chu announced the results of a comprehensive environmental analysis to identify proposed “solar energy zones” on public lands in six western states most suitable for “environmentally-sound, utility-scale solar energy production.”¹⁹⁸ Under the environmental study’s preferred alternative, the BLM has established the new solar energy program to standardize, streamline, and speed up the authorization process and establish mandatory design features for solar energy projects on BLM lands.¹⁹⁹ Moreover, the solar energy zones, which were identified in a Draft Solar Programmatic Environmental Impact Statement, were areas previously identified as the most appropriate for solar development and containing the fewest environmental and resource conflicts.²⁰⁰

There is little disagreement that increased solar energy is in the public interest and is critical to the efforts of many western states, such as California, to meet their RPS requirements.²⁰¹ Indeed, in 2009, California Governor Arnold Schwarzenegger signed a memorandum of understanding with Interior Secretary Salazar to speed up permitting of renewable energy projects in the state.²⁰² State and federal agencies in California, Nevada, Arizona, and Colorado strongly support the significant number of applications for utility-scale solar production, totaling 6,800 MW of production capacity just in California.²⁰³

homes and will begin construction in mid-2011); News Release, U.S. Dep’t of Interior, Salazar, Chu Announce Next Step in Nation’s March Toward Renewable Energy (Dec. 16, 2010); ENERGY BOOM, *Nevada: Secretary Salazar Approves 110 MW Solar Power Project* (Dec. 22, 2010), <http://www.energyboom.com/solar/nevada-secretary-salazar-approves-110-mw-solar-power-project>.

¹⁹⁶ See *BLM Fact Sheet: Renewable Energy and the BLM*, BUREAU OF LAND MGMT. (Dec. 2010), http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy/renewable_references.Par.95879.File.dat/2010%20Renewable%20Energy%20headed.pdf.

¹⁹⁷ See News Release, U.S. Dep’t of Interior, Salazar Approves Fifth-Ever Solar Project on Public Lands (Oct. 20, 2010).

¹⁹⁸ News Release, U.S. Dep’t of Interior (Dec. 16, 2010), *supra* note 195.

¹⁹⁹ *Id.*

²⁰⁰ See Ari Natter, *Interior, Energy Departments Identify “Solar Energy Zones” in Six Western States*, 41 ENV. REP. CUR. DEV. (BNA) 2850 (2010).

²⁰¹ See *supra* notes 73-74 and accompanying text.

²⁰² See News Release, U.S. Dep’t of Interior, Secretary Salazar, Gov. Schwarzenegger Sign Initiative to Expedite Renewable Energy Development, Oct. 12, 2009.

²⁰³ See Michael Balchunas, *Massive Utility-Scale Solar Projects Seen on the Horizon*,

According to the BLM, it established the “fast-track” process for solar energy, as well as other forms of renewable energy on public lands, in order to diversify the country’s energy portfolio “in an environmentally responsible manner.”²⁰⁴

2. Conflicts over solar energy and the public trust doctrine

Despite the promise of solar energy, environmentalists and other proponents of renewable energy have raised significant concerns regarding large-scale development of solar power on public lands. These concerns include the land-intensive nature of solar energy and the inevitable conflict between solar plants and critical habitat for desert species, as well as open space values and desert vistas.²⁰⁵ Research from 2009 indicates a CSP solar plant requires approximately 6,000 acres to produce 1,000 MW of power, compared to 640-1,280 acres for a coal fired power plant or nuclear plant to produce the same amount of power.²⁰⁶ Moreover, more recent research focusing on applicants for BLM permits to construct CSP plants in Arizona found that based on the amount of land requested for those plants, 22,927 acres would be required for every 1,000 MW of power produced, which is four times the earlier estimate.²⁰⁷ Furthermore, the most energy-efficient CSP plants require a significant amount of water to operate, placing additional pressures on desert areas in the Southwest that already struggle to meet water needs for consumption, industry, and species protection.²⁰⁸

For instance, the Mojave Desert in southwestern California is an ideal location for large-scale solar plants because of the open space and solar-rich landscape.²⁰⁹ It is also a treasured and unique desert

THE SOLAR HOME BUS. J., Dec. 15, 2010.

²⁰⁴ *Id.* (quoting Bob Abbey, Director of BLM).

²⁰⁵ See Nagle, *supra* note 6, at 1369-78, 1382-86 (discussing competing perspectives regarding the Mojave Desert).

²⁰⁶ See Glennon & Reeves, *supra* note 70, at 103 (discussing intensive land use nature of CSP plants); Nagle, *supra* note 6, at 1380-81 (discussing competing perspectives regarding the Mojave Desert); HIGHTOWER, *supra* note 90.

²⁰⁷ Glennon & Reeves, *supra* note 70, at 104-05.

²⁰⁸ See *id.* at 96-103 (discussing water-intensive nature of certain types of CSP plants and controversies over such water use for projects on BLM and private lands); Todd Woody, *Solar Developer Abandons Water Plans*, N.Y. TIMES GREEN BLOG, Nov. 16, 2009, <http://green.blogs.nytimes.com/2009/11/16/solar-developer-abandons-water-plans/> (discussing how water has emerged as a contentious issue for dozens of large-scale solar power plants in the southwest desert and the decreased efficiency of current dry-cooling technology as opposed to wet cooling).

²⁰⁹ See Barringer, *A Soft Spot for Public Lands*, *supra* note 191; Nagle, *supra* note 6,

landscape to many, as well as critical habitat for endangered desert tortoises, and home to big-horn sheep and rare plants.²¹⁰ This has resulted in disputes among environmental groups as they debate how to reconcile the public interest in increasing renewable solar energy with the public trust values in preserving desert landscapes.²¹¹ U.S. Senator Diane Feinstein entered the debate in 2010 by proposing a national monument that would ban renewable energy development on much of the same land in the Mojave sought by solar developers because of its proximity to transmission lines and the Southern California market.²¹²

As a result of these concerns, some of the proposed solar projects significantly reduced their footprints²¹³ and included greater commitments to reduce water use and mitigate impacts on desert tortoises and other species.²¹⁴ In response to these actions, environmental groups such as the Natural Resources Defense Council, Defenders of Wildlife, and the Wilderness Society gave at least lukewarm support to the large-scale solar projects the Interior Department approved in October 2010. Nevertheless, many local environmental groups remain opposed to these projects and are

at 1378.

²¹⁰ See, e.g., Barringer, *A Soft Spot for Public Lands*, *supra* note 191 (discussing environmental concerns about renewable energy projects); Felicity Barringer, *Environmentalists in a Clash of Goals*, N.Y. TIMES, March 24, 2009, (detailing the impact a potential solar project in California's Imperial Valley could have on local animal species and cultural sites); Ina Jaffe, *A Renewable Energy Debate Heats up in the Mojave*, NAT'L PUBLIC RADIO, April 23, 2010 (discussing Senator Feinstein's proposed national monument in the Mojave and environmentalists' efforts to protect native animal and plant species); Todd Woody, *It's Green Against Green In Mojave Desert Solar Battle*, YALE ENV'T 360, Feb. 1, 2010, <http://e360.yale.edu/content/feature.msp?id=2236> (detailing the presence of bighorn sheep, desert tortoises, and rare plants in areas near proposed solar projects).

²¹¹ See Glennon & Reeves, *supra* note 70, at 116-20 (discussing disputes between environmental groups and renewable energy companies, and between national environmental organizations and their local chapters, over solar projects proposed on BLM lands in the southwest, including in the Mojave Desert); see also Nagle, *supra* note 6, at 1378, 1382-85.

²¹² Woody, *It's Green Against Green In Mojave Desert Solar Battle*, *supra* note 210.

²¹³ The Tessera Solar Project reduced its footprint from 8,230 acres to 4,604 acres and the BrightSource Energy Ivanpah CSP project reduced its footprint by 12%. See Barringer, *Solar Power Plants to Rise on U.S. Lands*, N.Y. TIMES, Oct. 5, 2010 (discussing changes made to solar plants in the desert as a result of environmental objections).

²¹⁴ See, e.g., *id.* (discussing changes made to solar plants in the desert as a result of environmental objections); News Release, U.S. Dep't of Interior, (Oct. 20, 2010), *supra* note 197 (same); Glennon & Reeves, *supra* note 70, at 116-18 (discussing Ivanpah project).

concerned that the push for renewable energy, while a worthy goal, will overshadow other critical public trust values in these desert landscapes.²¹⁵ Indeed, in late December 2010, the Sierra Club sued the State of California for approving the Calico solar project in the Mojave Desert because of its location in the middle of desert tortoise habitat.²¹⁶ Other environmental groups are opposed to the “fast track” process, arguing that it results in rushed approvals and shoddy environmental analyses.²¹⁷

IV. BALANCING THE PUBLIC INTEREST IN RENEWABLE ENERGY DEVELOPMENT WITH EXISTING PUBLIC TRUST VALUES

The disputes over onshore and offshore renewable energy show how the public interest associated with renewable energy – preserving land, water, and the planet for future generations by combating climate change – can conflict with public trust values that benefit present and future generations, such as scenic vistas, wildlife, and preservation of land and water resources. This conflict is, in some ways, distinct from the vast majority of energy, economic, or public works projects that have been subject to public trust challenges in the last century – these prior projects primarily benefited present generations at the expense of future generations.²¹⁸ One need only think of the current economic benefits associated with the Illinois Central Railroad’s project in the Chicago Harbor,²¹⁹ the use of waters flowing into Mono Lake for domestic consumption in Los Angeles,²²⁰ or the numerous public works or private development projects slated to fill wetlands, lakes, parks, and public spaces if judicial use of the public trust doctrine had not stopped them.²²¹ Here, we are faced with renewable energy projects slated for private, state, and federal lands and waters that may adversely impact some public trust values for both present and future

²¹⁵ See Glennon & Reeves, *supra* note 70, at 116-20.

²¹⁶ See Debra Kahn, *Despite Permitting Shortcuts, California Projects Still Hit Hurdles*, CLIMATEWIRE, Jan. 3, 2011. Although the California Supreme Court dismissed the Sierra Club’s legal challenges to the project, other lawsuits against the project are currently pending. See Greg Wannier, *Climate Law Blog*, Columbia Law School, *Green versus Green: Litigation For and Against Solar Power in California*, May 18, 2011, <http://blogs.law.columbia.edu/climatechange/2011/05/18/green-vs-green-litigation-for-and-against-solar-power-in-california/>.

²¹⁷ Kahn, *supra* note 216.

²¹⁸ See *supra* notes 15-28 (discussing cases).

²¹⁹ See *supra* notes 15-19 and accompanying text.

²²⁰ See *supra* notes 25-26 and accompanying text.

²²¹ See Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 707-14 (discussing cases).

generations. Unlike the projects of the past, however, renewable energy projects have a goal of promoting other public trust values, including environmental values, specifically for future generations even while attempting to earn traditional, short-term economic gains for developers and investors.

Some may argue, of course, that any distinction between renewable energy projects and other development projects that conflict with public trust values is illusory. They would argue that renewable energy certainly serves the “public interest” of economic development and energy independence; but, when public trust lands and waters are at issue, this “public interest” cannot trump the dictates of the public trust doctrine.²²² Indeed, wind and solar developers are seeking to earn a profit from renewable energy development in the same way that traditional energy developers, railroad companies, or other industrial companies have always done. Certainly, the dissenting justices in *Alliance II* saw no difference between the Cape Wind project and offshore oil drilling or nuclear energy development for purposes of the public trust doctrine despite the inherent benefits of renewable energy.²²³

Nevertheless, many policymakers, environmentalists, and other renewable energy proponents see large-scale renewable energy projects as striking a fundamentally different balance. Why? Perhaps, it is because, if done correctly, such renewable energy projects can meet environmental goals that are quite different from the goals that can be achieved through traditional energy projects or industrial development. Indeed, the ability of renewable energy projects to positively impact climate change causes many to pause before arguing that such projects are an inappropriate use of public lands or waters – under the public trust doctrine or any other public interest balancing.

This is particularly true because climate change, while significant for the current generation, is most critical for future generations. As a New York Times article reported in December 2010, scientists say that fossil fuel emissions are “like a runaway train, hurtling the world’s citizens toward a stone wall — a carbon dioxide level that, over time, will cause profound changes.”²²⁴ As many scientists and others have

²²² See, e.g., *Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Bd.*, 932 N.E.2d 787, 816 (Mass. 2010) (*Alliance II*) (Marshall, C.J., dissenting).

²²³ See *supra* notes 167-179 and accompanying text.

²²⁴ Justin Gillis, *A Scientist, His Work and a Climate Reckoning*, N.Y. TIMES, Dec. 21, 2010, at A1; see also *Massachusetts v. E PA*, 549 U.S. 497, 521-24 (2007) (quoting from scientific affidavits regarding the “severe and irreversible changes to natural ecosystems” associated with climate change and the and the impacts on public health,

detailed, the risks associated with climate change include “melting ice sheets, rising seas, more droughts and heat waves, more flash floods, worse storms, extinction of many plants and animals, depletion of sea life and — perhaps most important — difficulty in producing an adequate supply of food.”²²⁵ As discussed in Part I, much of the analysis underlying *Illinois Central*, *Mono Lake*, and more contemporary discussions of the public trust doctrine focus squarely on the trust obligation toward future generations even more than on present generations.²²⁶ Based on this doctrinal focus, a strong argument can be made that renewable energy is different from other energy or economic development projects in terms of how to balance the climate change values of renewable energy against other competing public trust values.

The problem, however, is that 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 squarely within the protection of the public trust doctrine in many states. So who ultimately is responsible for ensuring the safety of these projects and that they are implemented so as not to adversely impact public trust values? Certainly Congress, state and federal agencies, and the courts have major roles to play. However, whether this oversight should be solely as a result of statutes and regulations or also the common law public trust doctrine remains an open question. The remainder of this Part discusses how efforts to balance competing public trust values could play out under state and federal law, with an eye toward the role of agency discretion and judicial review of that discretion.

A. *State Balancing of Public Trust Values*

When renewable energy projects impact state submerged lands and waters or impact wildlife or other protected resources within the state, each state undoubtedly will apply its own broad or narrow version of the public trust doctrine. Although any constitutional grounding for the public trust doctrine has always been shaky, the U.S. Supreme

biodiversity, coastal zones, sea levels, and water resources); Richard B. Alley et al., *Summary for Policymakers*, in IPCC FOURTH ASSESSMENT REPORT: CLIMATE CHANGE 2007, THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 1, 2-5, 10 (Susan Solomon et al. eds., 2007), available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf>.

²²⁵ Gillis, *supra* note 224, at A1.

²²⁶ See *supra* Part I.

Court, as recently as 1988, applied the doctrine to Mississippi without questioning its vitality, stating only that the scope (and not the existence) of the doctrine was a matter of state law.²²⁷ Certainly, some states, like California, have applied the common law doctrine broadly to cover not only submerged lands and water but inland wildlife resources as well.²²⁸ Other states apply it more sparingly — only to submerged lands and waters.²²⁹ Indeed, the Arizona legislature attempted to prohibit judicial application of the public trust doctrine to submerged riverbed lands and water allocations in the state.²³⁰ Although the Arizona Supreme Court found those efforts violated the state constitution, it shows that there may be a significant range of public trust values from state to state in the common law application of the doctrine.²³¹

Beyond the common law doctrine, some states have created constitutional public trust protections for water resources and other natural resources.²³² Other states have codified the doctrine by statute to protect not only submerged lands and waters but all natural resources.²³³ In the case of Minnesota, courts have found statutory protection for natural resources that include birds, the trees they nest in, historic buildings, marsh and wildlife areas, scenic views, wilderness experience, quietude, drinking water wells, and wetlands.²³⁴ Thus, while the common law public trust doctrine may play a large role in balancing competing public trust values in states

²²⁷ See *Phillips Petroleum Co. v. Mississippi*, 484 U.S. 469, 482-85 (1988).

²²⁸ See *supra* notes 113-117 and accompanying text.

²²⁹ See Craig, *supra* note 10, at 71-72, 80, 92 (discussing limited scope of public trust doctrine in Arizona compared to broad scope in California and some other western states); Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 707-12.

²³⁰ See *San Carlos Apache Tribe v. Super. Ct. ex rel. Maricopa*, 972 P.2d 179, 199 (Ariz. 1999); *Arizona Ctr. for Law & Pub. Interest v. Hassell*, 837 P.2d 158, 162 (Ariz. Ct. App. 1991).

²³¹ *San Carlos Apache Tribe*, 972 P.2d at 199.

²³² See *supra* note 38 and accompanying text (discussing and citing state constitutional provisions).

²³³ See Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 719-27 (discussing state statutes codifying the public trust doctrine and providing private rights of action to enforce it).

²³⁴ These decisions are based on the Minnesota Environmental Rights Act, which allows the state and private parties to bring actions for injunctive relief to protect “all mineral, animal, botanical, air, water, land, timber, soil, quietude, recreational, and historical resources” from the threat of pollution, impairment, or destruction. See MINN. STAT. § 116(B) (2005); Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 722 (discussing and citing cases).

like California, it may play a lesser role in states that have embodied those principles in statute, like Minnesota, or whose legislature has expressed outright hostility toward the doctrine in any form, as has been the case in Arizona.

Going beyond the public trust doctrine itself, as noted in Part III, many states have used public interest and general public trust language in enacting RPS legislation and other legislation promoting renewable energy. In any conflict between the public interest in renewable energy and public trust values in open space or wildlife, state agencies (and in some case county officials) will be on the front lines of balancing these values. Those agencies and, in some cases, state legislatures to the extent they intervene, may need to reject some wind and solar projects because the impact on public trust resources and values is too great, but set aside other areas for more intensive and coordinated renewable energy projects. State courts will be called upon to review whether agencies acted within their discretion in setting that balance in siting projects and imposing permit conditions.

In all of these cases, however, the public trust doctrine will likely play some role if the projects are in submerged lands within the core of the public trust doctrine. In some states, like California, even projects on private lands that impact wildlife will be subject to the public trust doctrine.²³⁵ By contrast, in Arizona, where the potential for significant solar power is high but state support for the public trust doctrine has been low, the balance may more strongly favor renewable energy projects even when these projects adversely impact wildlife or other public trust values. What may distinguish these renewable energy projects from the projects of the past, however, is that in at least some states there may be a public trust value, using the term in its broadest sense, in the renewable energy project itself, which both agencies and courts may need to take into account.

B. Federal Balancing of Public Trust Values

As discussed in Part II, arguments for a federal public trust doctrine are on much less solid ground than a state public trust doctrine. Moreover, federal agencies, like the Army Corps of Engineers in the Cape Wind environmental review, have good reason to disavow any public trust obligation that might place limits on their discretion.

²³⁵ See, e.g., *Ctr. for Biological Diversity, Inc. v. FPL Group*, 83 Cal. Rptr. 3d 588 (Ct. App. 2008) (finding that the public trust doctrine in California extends to birds and wildlife throughout the state, not only those found in tidelands and navigable waters).

Thus, the argument in favor of the common law public trust doctrine playing any role in federal decisions regarding renewable energy on public lands or in federal waters might appear remote.

There may be reasons, however, that federal agencies may benefit from the creation of a statutory public trust obligation in the context of renewable energy development. Clearly, federal agencies already have statutory obligations to protect endangered species and fulfill other statutory mandates set forth in the Wilderness Act, the National Park Service Organic Act, the Federal Land Policy and Management Act, the various federal statutes governing forest management, and the National Environmental Policy Act. As noted in Part II, many of these statutes impose trust obligations on federal agencies.²³⁶ Moreover, some of these statutes, particularly those governing forests and the Federal Land Policy and Management Act, require multiple use of federal lands, making it difficult to site large-scale renewable energy projects on lands that not only provide wildlife habitat, but also are used heavily by private parties for economic gain including traditional energy and mineral development or timber operations. Indeed, to begin to address these inevitable conflicts, in April 2011, the BLM issued a proposed rule allowing it to temporarily halt new mining claims on public lands that conflict with pending or future renewable energy projects.²³⁷

In the state law context, I have documented in earlier scholarship how the public trust doctrine can be used not only as a sword against state action interfering with public trust values but also as a shield for agency action to promote public trust values when such action limits private property rights and economic use of land or water protected by the public trust.²³⁸ If the federal government is determined to use federal lands to facilitate renewable energy development, as it appears to be, one way to address some of the inevitable conflicts with competing private industry would be to expressly designate renewable energy development as a public trust value by statute or regulation because of its potential role in addressing climate change and environmental protection for future generations. In doing so,

²³⁶ See *supra* Part II.

²³⁷ See *Segregation of Lands — Renewable Energy*, 76 Fed. Reg. 23198, 23200 (April 26, 2011) (to be codified at 43 CFR pts. 2090 & 2800); Phil Taylor, *Public Lands: BLM Proposes Halting Mining Claims for Renewable Energy Projects*, LAND LETTER, Apr. 28, 2011 (reporting on BLM proposed rule).

²³⁸ See Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, *supra* note 4, at 734-42 (discussing cases where state courts rejected takings claims by private parties where state action to protect public trust values infringed on private property rights).

Congress could then provide guidance to agencies on how to prioritize the various conflicting public trust values.

Such an approach may understandably cause some concern to environmental groups and others who are wary about elevating renewable energy development on federal land to the same or a higher level as existing public trust values already protected by federal statutes. However, Congress is likely the best branch of government to set that balance among competing public trust values, rather than having courts apply indeterminate statutes when disputes inevitably arise. So long as there is an express balancing of the competing public trust values, the goals of the public trust doctrine may in fact be met without adversely affecting competing public trust values any more than would happen without placing an express public trust value on renewable energy, which many agree is already strongly in the public interest.

In *Illinois Central*, the Supreme Court was careful to say that public trust lands could in fact be used by private industry, so long as that use did not adversely impact remaining public trust lands and values.²³⁹ Likewise, the California Supreme Court in the *Mono Lake* case did not say the water board could not give water from the streams at issue to Los Angeles but only that it must consider the impact on the public trust values of Mono Lake. Thus, in the case of promoting renewable energy on federal lands, it might be in the interest of federal agencies to have a statutory public trust basis for renewable energy.

Moreover, because there is no clear common law or constitutional basis for a federal public trust doctrine, challenges to particular renewable energy projects must occur under existing federal environmental protection provisions that derive from federal statutes. Creating an express public trust value in renewable energy, from the perspective of project opponents, merely means that courts can expressly balance competing public trust values instead of doing so without any real framework. Thus, opponents of renewable energy projects, as well as federal agencies, would both be no worse off, but courts would have more guidance to make decisions.

Finally, there are creative methods for Congress and federal agencies to attempt to balance renewable energy and other public trust values. Professor John Leshy has suggested several ways to attempt to reconcile competing uses on public lands in the area of renewable energy and climate change, including: (1) requiring renewable energy projects to pay the government for use of federal lands based on the

²³⁹ Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 452 (1892).

value of the energy produced and using that money for conservation programs on other public lands; (2) identifying those lands that would be preserved from energy development while actively encouraging the use of other, more appropriate lands, for such development; and, (3) auctioning off some lands with time-limited permits and others in fee simple conditional with a reverter back into public ownership once the use ends and the land is reclaimed.²⁴⁰ Approaches such as these recognize the potential public trust value in renewable energy without promoting it over all other existing public trust values on federal lands. Ultimately, Congress and federal agencies appear to be in the best position to set some standards and priorities in addressing conflicts on federal lands regarding competing public trust values, rather than having courts apply a common law public trust doctrine that has a very uncertain application in the federal lands context.

C. *The Role of Agency Discretion in Balancing Public Trust Values*

The existence of state or federal statutes that use public interest or public trust language to promote renewable energy raises the question of agency discretion and the courts' role in disputes involving the public trust doctrine. As noted above, unlike the *Illinois Central* case where the Supreme Court took it upon itself to define and apply the public trust doctrine with little deference to the Illinois legislature or any other decision-making body, the California Court of Appeals, in the *Center for Biological Diversity* case, gave great deference to the county decision-makers in balancing renewable energy with public trust values. Is this distinction surprising? Did the California court abdicate its duty under *Illinois Central*?

I suggest that it did not. *Illinois Central* was decided well before the rise of the administrative state in the early twentieth century, the creation of the environmental protection laws of the 1970s, or the adoption of the *Chevron* doctrine in the 1980s, expressly granting deference to agency decisions in their areas of expertise.²⁴¹ A state's complete conveyance of public trust lands or waters to private parties

²⁴⁰ See John D. Leshy, *Federal Lands in the Twenty-First Century*, 50 NAT. RES. L.J. 111, 121-22 (2010).

²⁴¹ See *Chevron U.S.A. v. Natural Res. Def. Council*, 467 U.S. 837, 843-44 (1984) (holding that when a statute governing agency action is ambiguous, courts should give deference to an agency construction of the statute that is permissible or reasonable); see also *United States v. Mead Corp.*, 533 U.S. 218, 226-27 (2001) (holding that agency interpretations of statutes are entitled to *Chevron* deference when it appears that Congress delegated the authority to the agency to make rules carrying the force of law and the agency interpretation was enacted in the exercise of that authority).

would still be invalid under *Illinois Central*, and a state agency's refusal to consider public trust value in its decision-making process would likely still be invalid under the principles of *Mono Lake*.²⁴² By contrast, however, most courts would likely give deference to an agency's decision to allow a renewable energy project to go forward upon a showing that the agency considered competing public trust values, unless its own statutes or regulations required the agency to give more weight to some values over others.

For instance, if a state or federal statute prohibited renewable energy projects adversely impacting endangered species, the California court's decision in *Center for Biological Diversity*, which deferred to the agencies' expertise in balancing the impact of species with the public interest in renewable energy, would likely be invalid. Barring such a clear choice by the legislature, however, expert agency balancing in this area will likely be, and in most cases should be, subject to some deference by the courts, even in cases where the common law public trust doctrine, rather than a federal or state statute or regulation, is at issue.

Does this mean then, that even as a matter of state law, where the public trust doctrine has clear common law groundings, courts should give up their inherent common law authority and defer to agencies that, like the Illinois legislature in *Illinois Central*, are subject to the political process and cannot always be trusted to protect the interests of future generations? The answer to that question remains no, because just as the language of a statute provides limits on agency discretion, the public trust doctrine itself provides its own limits on legislative action regarding public trust resources. The U.S. Supreme Court discussed those limits in *Illinois Central* by holding that the state may grant parcels of the submerged lands so long as their disposition does not "substantially impair the public interest in the lands and waters remaining."²⁴³

Arizona courts have imposed similar limits on state legislative action: first, when the state legislature attempted to relinquish the state's interest in riverbed lands, and again when the state enacted a statute in 1995 proclaiming that the public trust was not an element of a water right and that courts should not consider public trust values in

²⁴² See Nat'l Audubon Soc'y v. Super. Ct. (*Mono Lake*), 658 P.2d 709, 732 (Cal. 1983) (holding state water board violated public trust doctrine by failing completely to consider public trust doctrine and ecological values protected by the public trust doctrine in granting water rights to City of Los Angeles that would adversely impact those public trust values); see also *supra* notes 25-26 (discussing *Mono Lake* case).

²⁴³ *Ill. Cent. R.R. Co.*, 146 U.S. at 452.

adjudicating water rights.²⁴⁴ In each case, the Arizona courts relied on a combination of the authority in *Illinois Central*, state constitutional authority, and public trust developments in other states to conclude that courts could act as a check on actions by other branches of government that would unduly interfere with public trust values.

Thus, whether the public trust doctrine imposes a limit on state or federal action through the common law or through statutes and constitutions, the courts can and should always act as an important check on agency action or legislative action that goes beyond what is allowed under the public trust doctrine. When it comes to state law, the common law public trust doctrine or, in some states, statutes and constitutions, would provide that limit on actions to site and operate renewable energy projects in a manner that unduly interferes with competing public trust values. When it comes to federal law, that battle will be played out using primarily statutory public trust or public interest language, and federal agencies can and should be creative in setting that balance.

In each case, it will be important that agencies expressly balance the competing public trust values. In doing so, however, they must also ensure that public trust values subject to additional statutory protection, such as those found in NEPA or the ESA, are not ignored, watered-down, or overshadowed by the quest for renewable energy. The Interior Department's and Energy Department's efforts to identify "solar energy zones" on public lands in the West are a positive example of such balancing, in that, if done correctly, the agency will consolidate large-scale solar power in areas that have the highest solar energy potential and the fewest environmental and resource conflicts.²⁴⁵ To the extent renewable energy is added as a public trust value by statute as a result of its potential positive impact on climate change and future generations, that should be done only to make the balancing of public trust values more express, which may result in more transparency in decision-making and a more complete record for ultimate judicial review.

CONCLUSION

This Article explores the role of the public trust doctrine in disputes over the development of large-scale wind and solar energy projects on

²⁴⁴ See *San Carlos Apache Tribe v. Super. Ct. ex rel. Maricopa*, 972 P.2d 179, 215 (Ariz. 1999); *Ariz. Ctr. for Law & Pub Interest v. Hassell*, 837 P.2d 158, 171 (Ariz. Ct. App. 1991).

²⁴⁵ See Natter, *supra* note 200.

private and public lands and waters. Such disputes will be resolved in different ways depending on whether the wind or solar project is on private or public lands, is in state or federal waters, the public trust values that are placed at risk, and the state in which the dispute takes place. In all of these cases, however, it is important not to lose sight of the potential role of renewable energy in current and future efforts to address climate change. Unlike other economic development or energy projects that have the potential to interfere with public trust values, renewable energy projects are, in many ways, infused with their own public trust values because of their promise to preserve land, water, and other public trust resources for future generations. By explicitly recognizing these public trust values, policymakers and regulators may more expressly balance the competing public trust values, aid in transparent decision-making, and assist in more meaningful judicial review of these competing uses of state and federal lands and waters.