DEVELOPMENT OF ENERGY INFRASTRUCTURE: WILL TAXPAYERS' MONEY STIMULATE ENVIRONMENTAL REFORM?

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The American Recovery and Reinvestment Act of 2009 dedicates funds to upgrading the nation's energy infrastructure. Expectations for stimulated growth in our energy infrastructure (e.g., smarter transmission systems and diversified energy portfolios) are apt to run headlong into one of the realities of project development—a slow and painstaking journey through a labyrinth of federal, state, and local laws designed to mitigate or avoid the environmental impacts of our energy generation, transportation/transmission, and consumption. Such protections are surely needed, but can they be streamlined? Should they be streamlined?

The American Recovery and Reinvestment Act of 2009 dedicates approximately $20 billion to programs and projects intended to build a smart, sustainable energy infrastructure that the Obama administration promises will not only meet growing energy demand but also reduce environmental pollution, create jobs, and reduce the United States' dependency on foreign oil.[1] Stimulus funds are being rolled out in loan guaranty programs designed to attract private funds and with a promise to add nearly $60 billion to the pot that is available for energy development.[2] The country is soon expected to be awash in money to transform its energy infrastructure, which is broadly defined as energy generation plants (state-of-the-art coal and natural gas-fired power plants, nuclear generators, wind and solar farms, and so forth); transmission systems (electric lines, pipelines, and the like); and energy distribution systems (smart grids, smart meters, and so forth).

Available data suggest that such transformation will be of great interest. Though domestic per capita energy demand is projected to decrease between now and 2030, net energy consumption is expected to grow from 101.9 quadrillion British thermal units (Btu) in 2007 to 113.6 quadrillion Btu in 2030—an average increase of 0.5 percent per year.[3] This delta between existing energy supply and projected needs for future energy supply gives rise to the questions of where this energy will come from, how it should be generated and carried to market, and who should decide these questions. The fact that these questions were not answered before the stimulus bill infused taxpayers' money to the energy development sector will no doubt complicate public and private decision-making, which is already fraught with tensions between the great expectations of the stimulus bill and the obstacles to the development of the country's energy infrastructure.

Many of these obstacles arise from statutes and regulations designed to avoid or mitigate possible effects on the atmosphere, critical habitat, and so forth. Notably, the "obstacles" do not stem from efforts to balance legitimate concerns about protecting the environment, encouraging economic growth, and reducing our dependence on certain forms of energy. Rather, the "obstacles" are embedded in the patchwork of legal and regulatory systems currently used to conduct the balancing process. Environmental statutes and regulations seek to strike this balance by requiring certain impact analyses, developing mitigation measures that must be employed to minimize such impacts, setting limits on the nature and degree of impact that could accompany such growth, and prescribing pollution control technologies that ratchet up as innovation improves performance.

Yet the number and complexity of federal, state, and local statutes and regulations applicable to any given project mean that project development often takes years, even when the process runs smoothly. When primarily private money was earned or lost based on the outcome of this struggle, the inefficiencies caused by the current regulatory framework became a topic of conversation for niche practitioners (and the burden of consumers whose cost of energy reflected the struggle). Now, when taxpayer money hangs in the balance—along with promises of millions of jobs and salutary effects on the economy—these concerns are getting much closer attention from a broader array of policy-makers, and the time may be ripe for change.

Fundamental Perspectives

To understand the problem, one must understand the potential players involved in any proposed energy infrastructure project—the consumer creating demand, the project developer, the project lender, the project opponents, and the government authority regulating the project. These actors come to the energy development process with different—sometimes competing—objectives. Even though the regulatory framework does not have to ensure that each actor's objective is achieved, it must provide a process for each interested party to pursue its objective in a straightforward, transparent manner.

The Consumer

The demand for energy drives the effort to supply more energy. Consumer demand consists of three core concerns—reliability, cost, and available supply. Consumers want reliable access to energy and want it to be as cheap

as possible—at least most consumers do. In the aggregate, they want more of this cheap, reliable energy every day. A growing pocket of altruistic consumers wants to purchase energy generated from renewable resources and is willing to pay a premium for such power.

The Project Developer

The project developer craves financial predictability. Desire for profit motivates most, if not all, energy development in this country; therefore, by and large, energy projects do not get built if there is not some likelihood of a return on investment. To gauge the likelihood of a return on investment, developers require some measure of certainty regarding the process, cost, and timing of constructing the project as well as some assurance that a project will become operational once construction commences. Greater uncertainty must be accompanied by greater reward—meaning that an absence of clarity or predictability in the development process ultimately adds to what return on investment is warranted and, in turn, what consumers will be asked to pay. For developers of renewable energy projects, a portion of the certainty associated with return on investment is attributed to tax incentives that legislatures may or may not keep in place over the life of the project.

The Project Lender

A significant portion of any energy infrastructure project will be paid for by loans, which may come from private banks or from federal, state, or local agencies. Like the project developer, the project lender craves certainty—but certainty as to loan repayment as opposed to return on investment. Although loan repayment typically occurs ahead of return on investment, the lender's risk tolerance is often lower and particularly focused on the finality of the approvals obtained and the time between when the loan is made and when revenue will be generated from the project in order for repayment to begin. It is not surprising, then, that lenders are expected to be even more risk averse in the economic climate that precipitated the stimulus bill.

The Project Opponent

Project opponents may object to an energy project for any number of reasons, ranging from unabashed NIMBY-ism that tends to greet many wind energy projects; to perceived safety concerns, as in the case of nuclear energy; to localized environmental impacts, such as lost habitat, consumed water resources, and so forth; to macroenvironmental concerns like global warming. NIMBY, an acronym for the popular phrase "Not in my backyard," is used to describe opposition that is generated by the project's perceived negative impact on a population located near the project (a decrease in property values, for example) rather than the generalized environmental damage the project may cause. Another somewhat cynical phrase frequently employed by project developers is BANANA, an acronym for "Build absolutely nothing anywhere near anything (or anyone)," and is most often applied to opponents with a history of opposing so many energy infrastructure projects that one can infer that these project opponents would not support energy infrastructure projects in any context—that is, zero growth is an acceptable outcome for the BANANA group.

The Government Authority Regulating the Project

The government—typically a state or a federal agency—is tasked with assessing whether a proposed project meets the legal criteria for whatever certification, permit, or approval is required. The government's objective is to render a legally firm decision, meaning that its action is defensible in light of the relevant authorizing statute and/or regulation. With the energy development process beginning to span years rather than months, the government often faces tremendous difficulty creating a record sufficient to withstand challenges that may be raised two, three, or more years down the road.

Recent developments in the field of climate change provide an example of this problem. Projects that the government began analyzing years ago now face legal challenges based on the government's failure to consider the effects of the project on climate change and/or the impacts of the proposed project layered on top of the impacts of climate change. Previously, such suits had been dismissed because of the difficulty of attributing climate change to any given project under consideration, or, in the case of air permits, because the Environmental Protection Agency (EPA) was not regulating greenhouse gases under the Clean Air Act. Science and mathematical modeling of climate change are shifting so rapidly, however, that determinations made at one point in the regulatory process are being undermined by unforeseen developments months or years later. Similarly, the legislative and regulatory landscape is shifting at a formidable pace. It is surely difficult for a government considering a permitting or assessment action in 2009, for example, to predict accurately what, if any, laws regulating greenhouse gases will apply to the project at issue. The environmental agencies simply do not know what a legally defensible record looks like in the face of such uncertainty.

The Suite of Regulatory Frameworks

Excluding fuels used for transportation, people generally obtain energy either through receiving electricity at the consumption point or by burning fossil fuels at the consumption point. The generator must get its energy source to the consumer. There are three distinct components of energy development as it has been discussed thus far: generation, transmission/transportation, and distribution. Each of these components has its own unique characteristics, differing from the other two components in the sort of infrastructure required and environmental risks posed; thus, each component is often subject to a different regulatory framework. Rarely are all three the subject of a single energy development project; more often, these components are proposed as discrete energy projects. As discussed below, this approach can have an impact on some of the environmental assessments that federal and state laws require. Furthermore, each of these components requires different key authorizations for each step in the development process—siting, construction, and operation.

Siting

A determination about siting—the seemingly simple determination of where an energy development project should be built—is not necessarily an easy task. Excluding the production, transportation, and distribution of transportation fuels, Table 1 offers an overview of the relevant government siting authority for each component of the most common types of energy.

With the exception of fossil fuel generation and some sources of onshore renewable energy, no less than two different siting authorities are involved in siting each type of energy source. And, separate from the hurdles associated with the development of any one form of energy, the table illustrates that no single forum exists to resolve the types of energy infrastructure that should be developed, locations, or the mixture and diversity of energy sources that should be used. Instead, politics and NIMBY-ism allow governing authorities to push the challenge of energy development onto other governing bodies and other politicians. For example, a state government may pass legislation to stimulate the development of renewable energy that cannot be achieved without federal approval.

In addition, the government siting authorities rest with a myriad of federal, state, and local agencies, but other government authorities often hold a trump card arising from other environmental statutes. For example, the Deepwater Port Act, which requires entities seeking to own, construct, or operate an offshore terminal for imports of liquefied natural gas (LNG) to obtain a license from the U.S. Maritime Administration, also gives the governor of the state adjacent to the proposed location of the terminal a right to veto the licensing of such a project.[4]

As another example, where any of these projects with federal siting approval would occur within a coastal zone, the Coastal Zone Management Act (CZMA) requires the project proponent to submit an application to the state in which the project is located, certifying that the project is consistent with the state's CZMA program.[5] The federal agency overseeing siting of the project cannot grant approval unless the state concurs with the consistency determination or the project proponent secures a decision from the U.S. Department of Commerce that the proposed

Table 1. Government Siting Authority for Major Components of Energy

Energy Source	Generation/Production	Transmission/Transportation	Distribution
ELECTRICITY			
Fossil fuels *(coal, natural gas, etc.)*	State government	State government (except for NIETCs*)	State government
Nuclear	Nuclear Regulatory Commission	State government (except for NIETCs)	State government
Wind	Onshore: Local government and, in some cases, state government Offshore: DOI**	Onshore: State government (except for NIETCs) Offshore: DOI	State government
Hydroelectric	FERC***	State government (except for NIETCs), except the primary transmission line, which is sited by FERC.	State government
Solar, wave, biofuels, and geothermal	Onshore: State government Offshore: Federal government (FERC for hydrokinetic energy; DOI for solar)	State government (except for NIETCs)	State government
FOSSIL FUELS			
Oil and natural gas wells	Onshore: State government Offshore: DOI	Onshore: FERC Offshore: State government (three miles offshore, with some exceptions) or DOI (3 to 300 miles offshore)	State government
Liquefied natural gas import terminals	Onshore: FERC Offshore: MARAD****	FERC	State government

NIETCs are National Interest Electric Transmission Corridors, which are geographic areas in which the Department of Energy (DOE) has determined transmission congestion or constraints adversely affect consumers. Under the Energy Policy Act of 2005, FERC* can, in some circumstances, assume siting authority in NIETCs where the state has otherwise failed to approve a project. DOE has designated the Southwest and Mid-Atlantic regions of the country as NIETCs but has yet to exercise its siting authority in either area.*

***Department of the Interior.*

****Federal Energy Regulatory Commission.*

*****U.S. Maritime Administration.*

activity is consistent with the objectives of the CZMA or necessary for the country's national security.

Similarly, § 401 of the Clean Water Act (CWA) requires applicants for federal permits to provide the relevant federal licensing agency a water quality certificate from the affected state, confirming that the proposed project is consistent with the state's water quality standards.[6] If a state denies the water quality certificate, the federal licensing agency cannot grant final approval for the project. For example, Connecticut's denial of a water quality certificate recently derailed a federally approved natural gas pipeline from Connecticut to New York across Long Island Sound, because the state of Connecticut found that the construction activity would adversely affect existing and designated shellfish habitats and uses.[7] Connecticut's denial came five years after the developer had first filed its application with the Federal Energy Regulatory Commission (FERC), and final resolution of the related appeals took an additional two years.

The U.S. Army Corps of Engineers (USACE) also has the right to veto federal and state siting decisions through its administration of the CWA's Dredged and Fill Materials permit program, which is included in § 404 of the act.[8] This permit program is designed to avoid or mitigate the impact of a proposed project on nearby wetlands; a project developer cannot discharge dredged or fill material into the waters of the United States without prior approval by the USACE, meaning that construction near wetlands or areas adjacent to, running under, or spanning over any body of water is essentially subject to USACE approval. The § 404 permit program can be somewhat bewildering—a developer submits an application to the USACE, which then consults with the U.S. Fish and Wildlife Service about the environmental impact of the project pursuant to guidelines issued by the EPA.[9] The EPA also can override the USACE's decision to issue a § 404 permit and is charged with enforcing the permit program.

To make matters worse, the exact scope of permitting authority is poorly understood because the definition of a wetland has been in flux for years. The debate has been defined by decades of Supreme Court opinions—ranging from *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377 (1940), to *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121 (1985), to *Rapanos v. United States*, 547 U.S. 715 (2006)—decisions that have shaped ever-changing EPA guidance on the question; this guidance is also influenced by the course any given presidential administration wishes to take. Indeed, there are signs that the Obama administration may already be rethinking the EPA guidance issued under the Bush administration in response to *Rapanos*.

Construction and Operation

The construction and operation of power plants, transmission lines, substations, pipelines, terminals, and so forth trigger application of an array of permitting requirements intended to curtail and mitigate the environmental effects of the project. Which of these permitting requirements applies to the project in question depends in part on the nature and the location of the proposed project. The more significant permitting requirements for the development of energy infrastructure often arise under the Clean Air Act (CAA) and the Clean Water Act.[10] If a CAA or CWA permitting program has been delegated to a state's environmental agency, then the project proponent must satisfy both the state agency and the EPA (although typically only through one permitting process).

Under the CAA, the New Source Performance Standards (NSPS) program requires the EPA to establish nationally uniform emission standards for new and modified stationary sources. Emissions standards have been developed for generators, gas processing plants, gas turbines, and other projects.[11] The EPA annually promulgates new source-specific standards with which new and even previously permitted facilities are required to comply. The CAA also requires the EPA to set national standards for controlling certain hazardous air pollutants. These standards, referred to as the National Emissions Standards for Hazardous Air Pollutants, require certain generation facilities to employ the maximum achievable control technology in order to reduce hazardous air pollutants—such as benzene, toluene, and ethyl benzene[12]—and also require monitoring, inspections, record keeping, and reporting when necessary.

The energy industry is also generally subject to regulation under the New Source Review/Prevention of Significant Deterioration (NSR/PSD) program established under the Clean Air Act.[13] Under the NSR/PSD program, a permit is required for the construction of new coal or natural gas-fired power plants or for major modifications to existing facilities if they emit a regulated pollutant above a certain threshold. This permit will typically require the use of specified technologies to control emissions. Many states employ a minor NSR/PSD program to regulate those sources that do not qualify as major sources of pollution. Under a state's minor NSR/PSD program, sources that are not considered major sources of pollution are issued permits that include conditions that limit emissions. This allows the states to monitor low-emission sources that in the aggregate might interfere with the attainment or maintenance of the National Ambient Air Quality Standard.

The process for obtaining a permit that satisfies these and other Clean Air Act requirements is elaborate, highly technical, and incredibly time-consuming. Key milestones include submission of a complete application, a determination from the permitting authority that the application is administratively complete, the agency's review of the application, the agency's publication of a draft permit for notice and comment from stakeholders, issuance of a final permit, and opportunity for administrative appeal to the Environmental Appeals Board (EAB).

Many of these agency actions must occur within prescribed time lines, in accordance with the Clean Air Act. However, there are few if any consequences to the agency for not meeting the time lines unless the project proponents endure the cost and time to file a lawsuit against the agency for failure to act in a timely manner. Of course, suing the agency from which a permitting decision is being sought has its own implications when it comes to receiving

a favorable decision on the underlying permit. Also, if a favorable decision is finally issued, project opponents can (and often do) file an administrative appeal that is likely to take a year or more to prosecute at the EAB; opponents can also file suit in federal district court challenging the decision. Based on the EPA's rules, the air permit is not effective while the appeal is pending. Assuming that the EAB upholds an air permitting decision, project proponents can then appeal to the federal courts and seek an injunction while their appeal is pending. Project developers (and, more important, project lenders) may or may not be willing to commence construction (or issue the lending necessary for construction) while such an appeal is pending.

Under the Clean Water Act, energy infrastructure projects are subject to two key types of permitting requirements: point-source discharge and dredge-and-fill activities. Dredge-and-fill activities were discussed briefly above; the § 404 permit program controls the dredge-and-fill activities that might have an impact on "the waters of the United States" (a term that is broadly defined). Point-source discharge permitting is done under the National Pollutant Discharge Elimination System (NPDES) program,[14] which the EPA uses to control the discharge of any pollutants from any point source (such as a pipe) to waters of the United States, including industry-specific effluent guidelines that set numerical limits on wastewater discharge based on the category of activities conducted. Like air permitting, NPDES permitting is a separate elaborate process involving technical reviews, notice, and comment periods as well as the possibility of administrative appeals. The NPDES permit is a crucial component, for example, in developing offshore terminals to hold liquefied natural gas because of the variety of potential discharges (ballast water, deck drainage, gray water, sanitary waste, noncontact cooling water, desalination unit waste, and so forth) and the fact that such discharges almost always need to be made into surface waters.

This point leads to a final observation before further discussion: the environmental protections sought by these permitting programs are not the source of friction here. Many (though not all) of these environmental protections just comport with common sense. It is the number of different government offices through which a project developer must proceed and the number of different paths for litigation by project opponents that presents a challenge to the efficient development of energy infrastructure. Identifying, securing, and complying with all the applicable government permits, certifications, and approvals can be a herculean task. When these construction and operation permitting tasks are added onto an already arduous, lengthy, and litigation-prone siting process, the risk can be more than many investors (and, now, stimulus funds) should bear.

Other Statutes that Contribute to Systemic Inefficiencies

The development process involved in energy infrastructure is further burdened by a number of systemic inefficiencies that occur beyond the sheer complexity of the environmental permitting that must inform the development process, which itself inherently creates certain inefficiencies. Some of these systemic inefficiencies are the product, by and large, of the sprawling processes mandated by the National Environmental Policy Act (NEPA)[15] and the Endangered Species Act (ESA)[16] and their interaction with the other—more specific—environmental requirements associated with the development process. Another inefficiency is simply a product of the number of litigation opportunities presented in the labyrinth of applicable environmental laws described above and the citizen-suit provisions layered into those statutes. As opposed to the permitting process, which frequently depends heavily on the technical details of the proposed action, navigating these issues is more of an art than a science.

National Environmental Policy Act

An application to the relevant siting authority is often the trigger for an environmental assessment under the NEPA. According to the NEPA, federal agencies must conduct evaluations of potential environmental impacts before conducting certain major federal actions. Such federal actions may include leasing or permitting the construction and operation of an energy-generating facility or granting a right of way for transmission lines. This process involves three levels of environmental evaluation: making a categorical exclusion determination, performing an environmental assessment, or preparing an environmental impact statement. Large energy infrastructure projects often require a fulsome NEPA analysis on a project-by-project basis.

NEPA is a statute that deals with process; the act requires the lead federal agency (in coordination with cooperating agencies) to take a "hard look" at the direct and indirect impacts associated with the proposed action. For significant energy infrastructure projects, demonstrating that the agency has taken a hard look has evolved into a major undertaking for the particular agency and for the project developer. Key milestones include scoping, scoping meetings, publication of a draft environmental impact statement, a notice and comment period, publication of a final environmental impact statement, and issuance of the underlying decision. It is not uncommon for the process to take two or three years; nor is it uncommon for project opponents to file a lawsuit in federal court at the conclusion of the process asserting that the agency failed to meet its obligation to take a hard look at the impact of the project. Meanwhile, the underlying decision might be appealed first as an administrative proceeding. If both occur, the federal court might opt to stay its decision until the administrative proceeding is concluded, which only serves to compound the resulting delay. At varying levels, the agency, the project developer, and the project lender must individually decide whether each is comfortable proceeding with project construction while such appeals are pending.

NEPA litigation associated with energy infrastructure projects typically includes a full suite of alleged deficiencies, with project opponents often throwing in every conceivable angle in hopes that some attack will stick. Nevertheless, the scope of the proposed action and an analysis of its cumulative effects have proven to be fertile grounds for attack. Each of these issues is discussed below in an effort

to provide a flavor of the disputes that arise and the issues the action agency and project developer have to anticipate years in advance to enable the decisional document to withstand challenges pursuant to the NEPA.

Defining the Scope of the Action

Scoping is typically more of an issue in the NEPA process than it is in individual permitting determinations. Defining the scope of the action—including its purpose and need—can set the stage for the success or failure of an environmental assessment under the NEPA and its state equivalents and, increasingly, under the Endangered Species Act.

Connected Actions: The Scope of the Action Subject to NEPA. Section 102(2)(C) of NEPA requires an environmental impact statement (EIS) for "major Federal actions significantly affecting the quality of the human environment."[17] Even though administrative agencies must be given considerable discretion in defining the scope of an EIS, the U.S. Supreme Court has held that there are situations in which an agency is required to consider several related actions in a single EIS.[18] In the absence of such a requirement, a project could be divided into multiple "actions," each of which individually has an insignificant environmental impact but which collectively have a substantial impact.

The Council on Environmental Quality (CEQ) promulgated regulations that define the circumstances under which multiple related actions must be covered by a single EIS.[19] The regulations are binding on federal administrative agencies by Executive Order. The CEQ regulations require "connected actions" to be considered together in a single EIS. "Connected actions" are defined as actions that—

- automatically trigger other actions that may require environmental impact statements;
- cannot or will not proceed unless other actions have been taken previously or are taken simultaneously;
- are interdependent parts of a larger action and depend on the larger action for their justification.

The Ninth Circuit has criticized this definition for being somewhat redundant, and courts have largely dealt with the question of "connected actions" by asking whether the projects have "independent utility."[20] There is a growing body of case law that simply collapses the three prongs, holding that "the crux of the test is whether each of the two projects would have taken place with or without the other and thus had independent utility."[21]

In *Wilderness Workshop v. BLM*, 531 F.3d 1220 (10th Cir. 2008), plaintiffs challenged decisions made by the Bureau of Land Management (BLM) and the U.S. Forest Service authorizing a company to construct, operate, and maintain a natural gas pipeline through roadless national forest land, arguing that both agencies had failed to consider the future natural gas development—that is, the installation of additional gas wells—as a "connected action." In finding that the proposed natural gas pipeline and the development of gas wells were not interdependent, the Tenth Circuit found that the pipeline could exist without future development of wells, because (1) the EIS considered other pipeline routes and the new wells could find alternative means of transport from the area, (2) the pipeline did not "automatically trigger" additional wells, and (3) the drilling of wells could proceed without the pipeline.[22] Indeed, the fact that the pipeline would encourage the drilling of wells did not necessarily mean that drilling the wells and the constructing the pipeline were connected actions.

There is some question whether the "connected action" test requires the agency to evaluate the independent utility of the evaluated project or *both* the evaluated project *and* the purported "connected action." In the *Wilderness Workshop* case, the Tenth Circuit looked at whether "each of the two projects would have taken place with or without the other and thus had independent utility."[23]

In contrast, in the earlier case of *Utahns for Better Transportation v. U.S. Department of Transportation*, 305 F.3d 1152 (10th Cir. 2002), the Tenth Circuit found that the subsequent expansion of a highway around Salt Lake City was not a "connected action" to the construction of another parkway bypass that would operate as an alternate route during the expansion, despite the fact that the subsequent expansion would not occur without construction of the bypass. Because the bypass could be justified economically without the subsequent expansion of the highway, the two were not "connected actions" under the NEPA regulation.

The distinction between *Wilderness Workshop* and *Utahns for Better Transportation* is a big one and it can give project developers fits. For example, the developer of a transmission line may expect subsequent energy generation projects to sprout up along the transmission corridor, but they have an independent, pre-existing economic reason to build the line. Under *Wilderness Workshop* reasoning, the government agency that conducted the NEPA analysis may force the transmission line developer to consider whether such future generation projects are "connected actions" by asking the following questions:

- Are there any projects in development?
- If there are, how far along are they?
- What type of projects are they?
- What sort of impacts will these projects have?
- Do they have alternative means of getting anticipated power to market?
- Would the projects proceed without the planned transmission line?

This analysis can make the transmission developer responsible for a significantly greater universe of information to consider in the first instance and, where a generation plant might be considered a "connected action," the federal agency faces the difficult decision of whether to expand significantly the scope of its assessment or risk litigation further along in the process.

Adverse Effects and Cumulative Impacts: The Scope of the NEPA Review. It can be difficult to distinguish between the scope of the federal action subject to NEPA review and

the scope of the NEPA review itself. For example, though an action agency might not have to address a closely related private action as a "connected action," the agency might have to address the private project nonetheless because it constitutes an "adverse environmental effect" of the federal action. The "connected action" determination involves the scope of the proposed action, and the "adverse environmental effects" determination involves the scope of the NEPA review of the proposed action.

CEQ's regulations define "effects" and categorize them as "direct" or "indirect."[24] "Direct effects" are those that "are caused by the action and occur at the same time and place." "Indirect effects" are those that "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." Thus, the question is one of causation—the "effects" must be causally linked to the proposed federal action in order for NEPA to require consideration of those effects in an environmental assessment or an environmental impact statement. Deciding whether private activity might constitute an effect of the proposed federal action and therefore fall within the scope of NEPA review will generally require a careful analysis of all facts and circumstances surrounding the relationship.

In *Border Power Plant Working Group v. Department of Energy*, 260 F. Supp. 2d 997 (E.D. Ca. 2003), for example, the district court examined two applications for presidential permits and federal rights of way to build electricity transmission lines along a common transmission corridor within the United States and across the border between the United States and Mexico to connect new power plants in Mexico with the power grid in southern California. After undertaking an environmental assessment of the applications, the DOE and the BLM each issued a Finding of No Significant Impact. A project opponent filed suit, arguing that the agencies not only needed to analyze the impact of the construction of the two transmission lines but also needed to analyze the impact of the construction and operation of the Mexican power plants. The applicants for the transmission line, Baja California Power and Sempra Energy, argued that the "action" at issue was narrowly limited to the construction and operation of the transmission lines, without regard to the generation of the power, and the emissions of the power plants were not "effects" of that action; therefore, these issues did not need to be considered by the environmental assessment.

Because the power plants were beyond the U.S. border, no federal agency had jurisdiction over them, and their construction was not considered a "connected action." The power plants were therefore beyond the scope of the proposed action. However, the *Border Power Plant* court found that the plants were "reasonably foreseeable" "effects" of the transmission lines. Thus, even though it rejected the initial "connected action" argument, the court opened the door to requiring a much closer analysis of the "adverse effects" and "cumulative impacts" than was initially presented in the environmental assessment.

The *Border Power Plant* court made this determination by looking at the individual turbines at the Mexican power plants. For three of the turbines being constructed to export power to the United States, the transmission line was the only means to transmit power. The district court held that the transmission line was therefore a "but-for" cause of the generation of power at those turbines, and thus emissions resulting from those turbines were "effects" of the transmission line that must be analyzed under NEPA. The DOE and BLM were required to prepare an EIS for the transmission lines, and the project developers faced an unexpected delay of months, if not years.

Even if an activity related to an energy infrastructure project is not a "connected action" within the meaning of 40 C.F.R. § 1508.25 or an "adverse environmental effect" under 40 C.F.R. § 1508.8, the action agency must still analyze the cumulative impact of the energy infrastructure project when it is considered in conjunction with the impacts of other independent actions in the area. The CEQ regulations require that the "cumulative impacts" be considered together in a single EIS.[25] "Cumulative impact" is defined as

> The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or persons undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.[26]

Both "connected actions," as discussed above, and unrelated—but reasonably foreseeable—future actions may result in cumulative impacts. Although the NEPA does not require the government to do the impractical, the Ninth Circuit has held that "reasonably foreseeable' actions with potentially cumulative impacts must be analyzed under the NEPA. In *Border Power Plant*, this meant that the environmental assessment was insufficient if it did not disclose the past or present levels of air emissions in the air basin, and the assessment did not consider the combined effect of construction of the transmission lines when added to any unrelated, reasonably foreseeable future electricity generation projects in the air basin.

Confused? You are not alone. Government agencies and project developers struggle to navigate the NEPA's requirements in a legally defensible manner. And, as an added advantage to project opponents, there is a spectrum of judicial opinions available that mix, match, and sometimes conflate these concepts.

The Endangered Species Act

The Endangered Species Act is also often triggered by the development of energy infrastructure projects—for example, the impacts of wind turbines on threatened or endangered species and the ecosystems that support them. Under § 7 of the ESA, agencies undertaking a federal action, such as a BLM review to lease federal lands, must consult with the resource agencies—U.S. Fish and Wildlife Service (FWS) and/or the National Oceanic and Atmospheric Association (NOAA) regarding the proposed project. The

resource agencies then must prepare a biological opinion if the proposed activities may affect a listed species or its habitat. In addition, individuals and companies must comply with the ESA's prohibition on "taking," or killing, a species listed as endangered. If the potential for unintentional, or "incidental," taking exists, an incidental taking permit must be obtained from the resource agency. This permit process involves preparation and submission of a Habitat Conservation Plan, which is a long-term management plan intended to conserve threatened and endangered species and their habitat.

Like the NEPA, the ESA process is fraught with potential delays of projects. The consultation required between the FWS and the federal action agency routinely exceeds the time provided by the ESA statute and regulations. The problem is that there is no mechanism within the statute to compel the resource agency to issue the biological opinion in a timely fashion—all the action agency or the project developer can do is file a lawsuit. It is highly probable that litigation itself will take months or even years, rendering it essentially a last resort.

This process can be complicated by the fact that the list of species protected under the Endangered Species Act is constantly evolving. Even though expanding the list of protected species is essential to preserving species, the petition process itself provides the opportunity for a bit of gamesmanship—it is not unheard of for project opponents to petition the Fish and Wildlife Service to add a species to the list simply for the purpose of delaying a project that would be constructed near the species' habitat. Such an action opens up numerous opportunities to litigate: While the petition is pending, opponents may seek an injunction delaying the project. If the petition is denied, opponents can challenge the denial. If the petition is approved, but the project moves forward, opponents can fall back on the normal path to litigation, challenging the sufficiency of the ESA § 7 consultation itself.

Perhaps no issue has the potential to transform the ESA § 7 consultation more than the developing science regarding climate change. As far back as 2007—months before climate change landmark cases like *Massachusetts v. EPA*, 549 U.S. 497 (2007) and two years before EPA's recent proposed endangerment finding—some environmental groups petitioned the Department of the Interior to require federal agencies to consider the impact of global warming during ESA § 7 consultation. Even though the government has largely ignored these calls to convert the ESA into a de facto tool to regulate greenhouse gas emissions, the Department of the Interior has begun to list species as threatened or endangered in part because of climate change. While the polar bear is the most well-known of these listings, there have been others, such as for staghorn and elkhorn coral.

When the polar bear was listed, however, Secretary of the Interior Kempthorne specifically noted that the impacts from individual power plants, government-issued permits, or any other indirect effects from activities in the lower 48 states do not create measurable effects upon individual polar bears. Therefore, the department determined that these types of activities were *not* potentially reviewable under the ESA § 7 consultation requirements. The secretary's statement relied on a summary of the latest climate results from the scientific community that were issued in May 2008, on which the polar bear listing also relied. The summary concluded that (1) past and current climate change models have been primarily developed on a global and continental scale and (2) difficulties arise when the scientific community attempts to simulate or attribute observed temperature changes on a scale smaller than a global or continental level. The secretary's statement has since been affirmed by the Obama administration and backed up by statements from the EPA and a solicitor's opinion to the same effect.[27] Environmental groups—including the Center for Biological Diversity, National Resources Defense Council, and Greenpeace—and even some states have already challenged the legality of the polar bear rule because of the limitations placed on the reach of the rule.[28] Separately, a concurrence has not yet been issued by the other resource agency, National Marine Fisheries Service (NMFS), which is a division of the National Oceanic and Atmospheric Association; NOAA and FWS are both part of the executive branch, NOAA falls within the Department of Commerce, not the Department of the Interior. Among other things, the Endangered Species Act charges NMFS with protection of the staghorn and elkhorn coral that have been listed as threatened, in part, based upon the effects of climate change.

Even though a direct challenge to an ESA § 7 consultation grounded in the project's impact on climate change has yet to really be effective, project opponents have seen some success in challenging the sufficiency of an ESA § 7 consultation when the agencies did not consider the separate impact of climate change on species when *modeling* the likely future impact of a given project on that species. In both *NRDC v. Kempthorne*, 506 F. Supp. 2d 322 (E.D. Cal. 2007), and *Pacific Coast Fed. of Fishermen's Associations v. Gutierrez*, 2008 WL 2223070 (E.D. Cal. 2008), for example, a district court in California granted a project opponent's motion for summary judgment based on the failure of the NMFS to address the impact of global climate change on the delta smelt in connection with an ESA § 7 consultation on the Central Valley Project, part of California's vast water delivery infrastructure. [29]

Decisions like those reached in *NRDC v. Kempthorne* and *Pac. Coast Fed. of Fishermen's Associations v. Gutierrez*—along with the continued listing of species under the ESA because of the effect of climate change—may open the door to challenges to energy projects on the basis of a failure to consider the impact of the project on species across the country, or even across the world, based on the project's emission of greenhouse gases. Even unsuccessful litigation such as *Center for Biological Diversity v. Dept. of Interior*, in which the ESA claim was dismissed as not ripe for review, is likely to have an impact on the typical ESA § 7 consultation.[30] Action agencies and project developers can be sure of two things: (1) courts generally accept the connection between climate change and species endangerment and (2) the agencies will be sued by project opponents under the ESA.

Multiple Administrative and Civil Litigation Fronts

A project opponent with resources has many opportunities to launch litigation against an energy project; for example, the ESA consultation, its air permits, its water permits (any discharge or § 404 dredge-and-fill permit), the environmental assessment required by the NEPA, and, if any are required, approvals of federal or tribal leases. In the case of the permit approvals, the project opponent may first seek administrative appeals, then litigation in federal court. Administrative appeal boards vary in the time necessary to process an appeal—the EPA's Environmental Appeals Board generally takes about a year to process the appeal of a complicated air permit; the Bureau of Indian Affairs' Interior Board of Indian Appeals has a backlog of cases whose appeals can take two years or more to be decided. Notably, at the administrative level, there is no mechanism for consolidating these lawsuits, and there is no real mechanism for avoiding them.

Under statutes like the NEPA and ESA, it should be noted that the project opponent's advantage is amplified by the asymmetrical burdens placed on the parties involved in the project. The project developer must develop an analytical framework to address any given environmental need; the developer must devise avoidance strategies and mitigation measures and also consider alternatives. All the project opponent has to do is raise the possibility of harm tethered to any purported deficiency in the project proponent's reasoning. A great deal of the time, the purported deficiency is not even related to the law as the government and project proponent understand it at the time of the permitting action or the environmental assessment; rather, the claimed deficiency is frequently related to the law as the project opponent *argues* it should be.

In regular civil courts, of course, plaintiffs may make a good faith argument for an extension of the law to cover their injury, but they still have to demonstrate *some* injury. In the context of legal challenges to energy projects, opponents may argue for an extension of the law—say, an obligation to coordinate processes or the novel application of environmental justice principles—to *create* the injury that provides the basis of the suit. This possibility can often give the appearance that opponents are merely suing to delay the project, because delay is in itself a desirable outcome. This problem is not as great in federal lawsuits, in which plaintiffs are still bound by the constitutional notion of standing, but it can be a huge problem in administrative appeals, where the only barrier to suit is that the opponent must have submitted a comment to the relevant agency during the permitting or assessment period.

All this discussion relates to situations that can significantly impede the trajectory of energy development or bring it to a complete halt. The disruptive impact of these claims can be so great that the disruption can become an end in itself, as opposed to a means to improved decision-making about environmental issues.

Trends in the Development of Energy Infrastructure

Calls for Relaxing NEPA Requirements and Streamlining Permit Processes

Calls for simplification of the environmental review associated with the development of energy projects have been heard for years, but they have gained new traction now that the complex process is impeding the development of renewable energy projects. Advocates for a simpler process have generally seized on the passage of the American Recovery and Reinvestment Act as an opportunity to spark meaningful consideration of the issue. Indeed, before the stimulus bill was passed, there were plenty of calls for the bill to include temporary relaxation of the NEPA's requirements. In January 2009, for example, Gov. Arnold Schwarzenegger of California called on President-elect Obama to support three proposals that would have accelerated energy development: (1) temporarily waiving or streamlining NEPA requirements for projects funded through the stimulus bill, (2) shortening federal permitting turnaround times, and (3) allowing developers to commence construction of energy projects while still negotiating mitigation measures with permitting agencies.

In addition, in April 2009, Gov. Schwarzenegger's Office of Planning and Research released draft guidelines setting down an approach for assessing and mitigating greenhouse gas emissions in California's state law that is equivalent to NEPA. The governor's proposed approach would allow lead agencies to analyze and mitigate the effects of greenhouse gas emission at a programmatic level, with later project-specific environmental documents tiering onto or incorporating by reference the existing review. This approach is expected to reduce the burden of studying each individual project's impact on global climate change.

In February 2009, Congress rejected an amendment to the stimulus bill introduced by Sen. John Barrasso (R-Wyo.) that would have required federal agencies to issue NEPA determinations within 270 days; failure to issue a determination within that time frame would have resulted in constructive determination that the proposed project had no significant impact on the environment. The amendment failed; instead, Congress approved an amendment introduced by Sen. Barbara Boxer (D-Calif.) that provides that "[a]dequate resources within [the stimulus bill] must be devoted to ensuring that the applicable environmental reviews under the National Environmental Policy Act are completed on an expeditious basis and that the shortest existing applicable process under the National Environmental Policy Act shall be utilized." Given the fact that Sen. Boxer had previously proposed an amendment that would have limited stimulus funds to those projects that had already completed an NEPA environmental assessment, critics expressed some skepticism that the subsequent amendment was introduced simply to provide a fig leaf for a potential problem. After passage of the final stimulus bill, however, the Council on Environmental Quality, the executive department charged with promulgating NEPA guidance, indicated that it was formulating guidance for federal agencies on what "expedited review" might look like.

As of this writing, CEQ's guidance has yet to be circulat-

ed publicly. In any event, the promise of CEQ guidance has not slowed calls for reforming the National Environmental Policy Act. In 2009, for example, the U.S. Chamber of Commerce launched a new lobbying campaign aimed at cutting NEPA requirements and streamlining the federal permitting process. The group has launched a Web site (pnp.uschamber.com/) that purports to keep a running tally of energy projects that have been stymied by project opponents using the NEPA or federal permitting processes.

One-Stop Authorization Processes

A trend that has developed alongside these increasing calls for simplifying the NEPA process and streamlining permit processes is the concept of "one-stop" authorization processes, in which all the siting, construction, and operation components of an energy project would be considered in a centralized application process. A lead agency would coordinate an assessment staff comprised of representatives from the relevant government agencies. The project proponent would submit a single application, which would undergo a unified environmental assessment, at the end of which the project proponent would receive all the individual approvals, certifications, and approvals needed to construct and operate the project. Perhaps most important, even though the one-stop process would still allow challenges to different aspects of the environmental assessment (such as the NEPA assessment, the ESA consultation, the air permits, and so forth), they would be challenged in a single litigation, ultimately addressing all environmental challenges to the proposed project in a single decision. It is expected that a centralized process like this would greatly increase the efficiency with which the government would deal with project proposals while preserving the opportunity for all project opponents to be heard on their specific issues of concern.

The federal government has made only timid progress toward experimenting with this type of process. The Energy Policy Act of 2005, for example, expanded the Federal Energy Regulatory Commission's authority over the permitting of natural gas pipelines and allowed the FERC to set deadlines for cooperating agencies to complete their work on a pipeline approval. FERC subsequently decided to give agencies 90 days from the publication of FERC's final NEPA assessment of a project to complete all related determinations. It is interesting to note that the Energy Policy Act did not provide any mechanism by which FERC could enforce this deadline, which is perhaps why not a single pipeline has been sited under this law.

Similarly, the Energy Policy Act of 2005 directed the Department of Energy to designate National Transmission Corridors for which FERC would have authority to override state delays in approving transmission lines, but no transmission line has been sited pursuant to that authority. The Senate Committee on Energy and Natural Resources is currently considering legislation that would give FERC authority over national high-priority transmission projects and lead agency status in related environmental reviews. Similar legislation has been introduced in the House of Representatives. In addition, the Department of Interior has announced plans to establish "renewable energy coordination offices" to expedite the siting and permitting of renewable energy projects on federal land, although few details have emerged regarding these plans.

A significant number of states have implemented consolidated energy project siting programs, but few of these programs actually include related environmental permits in the siting process. Florida, for example, includes all local and state permits or approvals within a single certification issued under its Power Plant Siting Act, but any permits administrated by Florida pursuant to federal statutes like the Clean Air Act or Clean Water Act are handled separately from Florida's certification for power plant siting. Similarly, the California Energy Commission's siting certificate preempts all local and state permits, but not federal ones.

Of the state siting programs, Washington state may have the most comprehensive approach. Washington's Energy Facility Site Evaluation Council (EFSEC) covers a wide array of energy projects, including power plants, liquid natural gas or underground gas storage facilities, oil and gas pipelines, alternative energy generation facilities (wind, solar, geothermal, wave, and so forth), transmission lines, and refineries. The EFSEC is made up of representatives from the relevant agencies and local government and is headed by a citizen chairperson. In addition, Washington state's attorney general appoints "counsel for the environment," who is charged with safeguarding the environment during the siting and approval process. The state of Washington incorporates its federally delegated water and air quality permits into the siting decision but permits or approvals under programs like Resource Conservation and Recovery Act, Safe Drinking Water Act, and the ESA fall outside the scope of the EFSEC program. To the extent that the energy project requires a federal approval that would subject the project to the NEPA process rather than the state equivalent, the EFSEC works with the federal action agency but does not direct the NEPA process.

New York offers an interesting example of what energy development looks like without even the modestly consolidated programs discussed above. New York's Article X was enacted in 1992 to provide a consolidated siting, construction, and operation approval process for certain qualifying energy projects. New York's state legislature let Article X expire in 2003, the energy development process was therefore reassigned to the various local and state authorities with jurisdiction over different parts of the siting process—local town councils with jurisdiction over land use approvals, an environmental assessment through the New York Department of Environmental Conservation, and so forth. A new Article X has been introduced in the state legislature every year but has never been passed into law. In the meantime, studies indicate that the time it takes to obtain siting approval of a new power plant in New York has grown to five years, compared to just two years in California.

Conclusion

Development of new energy infrastructure is a critical element in the drive toward the nation's energy independence. Project developers, project lenders, project oppo-

nents, and regulatory authorities need a coordinated forum and process so that concerns with merit can be addressed and projects can move forward. Until then, the patchwork of federal, state, and local environmental statutes, permitting processes, impact assessments, and suits brought by citizens are insufficient to provide the clarity needed for predictable outcomes that balance energy and environmental issues. **TFL**

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Endnotes

[1]American Recovery and Reinvestment Act of 2009, Publ. L. No. 111-5 (codified as amended in scattered sections of the U.S.C.).

[2]*See* Title 17 of the American Recovery and Reinvestment Act of 2009, Publ. L. No. 111-5 (amending the Innovative Technology Loan Guarantee Program contained in § 1705 of the Energy Policy Act of 2005).

[3]Energy Information Administration, A*nnual Energy Outlook 2009*, p. 5.

[4]Deepwater Protection Act of 1974, 33 U.S.C. §§ 1501–1524 (2008).

[5]Coastal Zone Management Act of 1972, 16 U.S.C. §§ 1451–1466 (2008).

[6]33 U.S.C. § 1341 (2008).

[7]*See Islander East Pipeline Company LLC v. McCarthy*, 525 F.3d 141, 151–152 (2nd Cir. 2008). The water quality certification in *Islander East* was the subject of successive appeals. In the first, the Second Circuit vacated Connecticut's denial of the certificate, finding that the state had intended to deny the request regardless of the actual results of the water quality analysis. *Id*. In the second appeal, the Second Circuit upheld the denial, despite the fact that the area that Connecticut found would be disturbed by the construction was designated as shellfish habitat in 2005, four years after the developer had submitted its application to build the pipeline. *Id*. at 153 n. 11.

[8]33 U.S.C. § 1344 (2008).

[9]The CWA provides that the § 404 permit program may be delegated to the states, but so far Michigan is the only state to which such authority has been delegated.

[10]Clean Air Act, 42 U.S.C. §§ 7401–7671q (2008); Clean Water Act, contained within the Water Pollution Control Act, 33 U.S.C. §§ 1251–1387 (2008).

[11]42 U.S.C. § 7411 (2008); *see also* 40 C.F.R. Part 60.

[12]42 U.S.C. § 7412 (2008); *see also* 40 C.F.R. Parts 61 and 63.

[13]42 U.S.C. §§ 7470–7492 (2008).

[14]33 U.S.C. § 1342 (2008).

[15]42 U.S.C. §§ 4321–4370f (2008).

[16]Endangered Species Act of 1973, 16 U.S.C. §§ 1531–1599 (2008).

[17]42 U.S.C. § 4332 (2008).

[18]*See Kleppe v. Sierra Club*, 427 U.S. 390, 412–415 (1976).

[19]*See* 40 C.F.R. § 1508.25(a)(1).

[20]*Thomas v. Peterson*, 753 F.2d 754, 758 (9th Cir. 1985); *see Citizens' Committee to Save Our Canyons*, 297 F.3d a 1012, 1029 (10th Cir. 2002); *see also Daly v. Volpe*, 514 F.2d 1106, 1110 (9th Cir. 1975); *Hudson River Sloop Clearwater Inc. v. Dept. of Navy*, 836 F.2d 760, 764 (2nd Cir. 1988); *Fritiofson v. Alexander*, 772 F.2d 1225, 1242 (5th Cir. 1985); *Taxpayers Watchdog Inc. v. Stanley*, 819 F.2d 294 (D.C. Cir. 1987).

[21]*See*, for example, *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 969 (9th Cir. 2006); *Wilderness Workshop v. BLM*, 531 F.3d 1220, 1229 (10th Cir. 2008).

[22]*Wilderness Workshop*, 532 F.3d at 1230.

[23]*Wilderness Workshop*, 531 F.3d at 1229.

[24]40 C.F.R. § 1508.8 (2008).

[25]40 C.F.R. § 1508.25(c) (2008).

[26]40 C.F.R. § 1508.7 (2008).

[27]*See* Press Release, DOI, Salazar Retains Conservation Rule for Polar Bears (May 8, 2009); David Bernhardt, solicitor, U.S. Department of the Interior, "Guidance on the Applicability of the Endangered Species Act's Consultation Requirements to Proposed Actions Involving the Emissions of Greenhouse Gases," memorandum to Dirk Kempthorne, secretary, Department of the Interior (Oct. 3, 2008); *see also* Bob Meyers, principal deputy assistant director, EPA Office of Air and Radiation, letter to H. Dale Hall, director, U.S. Fish and Wildlife Service, and to James Lecky, director, Office of Protected Resources, National Marine Fisheries Service (Oct. 3, 2008).

[28]*See*, for example, *California v. Kempthorne, et al.*, Docket No. 3:08cv05654 (filed in the District Court for the Northern District of California, Mar. 12, 2009); *Center for Biological Diversity v. Kempthorne*, Docket No. 3:08cv05546 (filed in the District Court for the Northern District of California, Dec. 11, 2008).

[29]*Nat. Resource Defense Council v. Kempthorne*, 506 F. Supp. 2d 322, 367–370 (E.D. Cal. 2007); *see also Pac. Coast Fed. of Fisherman's Assoc. v. Gutierrez*, WL 2223070 (E.D. Cal. 2008); *see also Northwest Environmental Advocates v. National Marine Fisheries Service*, 460 F.3d 1125, 1161 n.10 (9th Cir. 2006) (Fletcher, J., dissenting) (criticizing the Army Corps of Engineers' failure to consider future impact of climate change in water salinity model).

[30]*Center for Biological Diversity v. U.S. Dept. of Interior*, 2009 WL 1025375 (D.C. Cir. Apr. 17, 2009).