



USING COLLABORATION TO ADDRESS RENEWABLE ENERGY SITING CHALLENGES

By Lynne Gillette, Jeff Silvyn, and Rebecca Guiao

Although renewable energy currently enjoys wide public and political support, specific projects can and do run into the same types of barriers as do fossil fuel based energy projects and a few unique barriers as well. Underestimating the concerns of those with a stake in the project can be detrimental to the project. Project developers would be well-advised to hold off showing up with their shovels until they have followed President Obama's advice and have actively engaged all project stakeholders in a collaborative process. A carefully considered and effectively implemented stakeholder engagement plan can dispel misunderstandings about a project, improve project design, and reduce legal challenges.

In preparing the following discussion and suggestions, the authors considered the collective experience of staff at the U.S. Institute for Environmental Conflict Resolution and their interactions with public officials who are involved in dispute resolution, neutral parties in the private sector, and professional associations dedicated to collaboration and dispute resolution. The body of literature addressing conflict resolution and collaboration was also examined.

Types of Renewable Energy

Renewable energy has the potential to support energy independence and to help reduce emissions that lead to climate change. However, these renewable energy technologies also have potential negative impacts and introduce sources of conflict. The types of renewable energy considered in this discussion are wind, solar, geothermal, and wave energy—all of which have the potential to produce domestic sources of energy for the United States that are renewable and have zero emissions.

Wind energy is harnessed through wind turbines that can be placed on land and offshore. Aside from hydroelectricity, wind energy yields renewable electricity at the lowest cost that is currently available, and wind farms built in rural areas can be used both for generating energy and for farming or ranching. However, there are visual and aesthetic concerns expressed by residents near and in view of wind farms, because wind turbines are highly visible and widely dispersed, as well as concerns for avian and bat mortality resulting from wind turbines; technology may address these impacts. Even though wind farms have relatively low impacts while they are functioning, the construction of wind farms may negatively affect the surrounding environment through the building of service roads and infrastructure. In addition, because the amount of energy generated depends on wind speed, the availability of wind energy is inconsistent.

Solar energy is energy captured from the sun's radiant energy. The two main types of solar energy technologies are photovoltaic (PV) and concentrated solar power (CSP). Like wind energy, solar energy provides an intermittent source of electricity that depends on the intensity and duration of daylight. Certain solar technologies require large amounts of land to collect solar radiation, and commercial-scale solar arrays can interrupt sunlight, rain, and drainage patterns. That interruption can have negative impacts on the surrounding environment. In addition to ecological impacts, solar energy plants can disturb archeological and cultural resources. There are also concerns for visual and aesthetic impacts from solar energy plants, because they can be seen by nearby property owners. CSP plants are waterintensive, and areas that are best suited for solar energy production, such as the Ameri-

can Southwest, are already facing water shortages. Hazardous resources used in PV modules can pose a danger when decommissioned, and CSP technologies sometimes use fluids that can be hazardous when spilled.

Geothermal energy uses the earth's heat to produce energy by drilling wells in underground reservoirs to dig for steam or hot water, the heat from which is used to move turbines that generate electricity. There is abundant energy available from the earth's core for this type of energy. Unlike wind and solar energy, geothermal energy is available 24 hours a day, and geothermal plants require small land areas. However, geothermal energy also poses potential concerns over the depletion of groundwater, because this type of energy uses water from under the earth's surface. This use may lead to land subsidence, which could require reinjection of water into the underground reservoirs. Because geothermal plants require hydrothermal sources, geothermal energy in the United States is mostly available in the West, Hawaii, and Alaska.

Wave energy is a more recent field that is developing at a good pace. Wave energy conversion (WEC) devices get energy directly from the movement of waves or the change of pressure under the water's surface. WEC devices have a potential impact on the surrounding marine environment and other ocean users. Some devices are visible above the surface of the water; and turbines, pumps, and other parts of the device can produce noise above and below the water surface. Wave energy technologies can affect marine habitats and species when new, needed structures are added on the ocean surface. Toxic releases may also be a potential risk because of accidental release of hydraulic fluids used in some wave technology devices.

Common Challenges in Renewable Energy Development ***Navigating Multiple Rules and Jurisdictions***

Common challenges facing the development of wind, solar, geothermal, and wave energy arise out of the permitting and siting of renewable energy facilities and transmission lines. The National Environmental Policy Act (NEPA) requires an environmental review of federal actions and federally funded or federally approved projects. Fully understanding the requirements of the NEPA is important to any project subject to the statute. The process that federal agencies are required to follow during an NEPA environmental review can be lengthy. Project proponents may become frustrated by an NEPA review process that they perceive unnecessarily or excessively slows down the implementation of a project. Further delay may result if litigation is brought to challenge the NEPA process requirements, and sometimes overlapping state and local requirements are not entirely consistent with one another.

The need for new transmission line corridors presents another significant challenge. Many sites that have the best potential for renewable energy development are in remote areas—far from most of the energy consumers and the necessary infrastructure. Building these transmission lines will bring about its own challenges, requiring rights-of-way across federal, state, private, and tribal lands. When interstate transmission lines are needed to make a project vi-

able, the Federal Energy Regulatory Commission has overlapping authority to regulate such lines with state and local power authorities. This can lead to a single project having to navigate a maze of regulatory requirements from overlapping government and agency jurisdictions.

Being “Green” Doesn’t Guarantee Acceptance

A reaction referred to as NIMBY (“not in my backyard”)—a term used to describe the attitude of people and organizations who oppose a project because it is being built in their immediate vicinity—may also pose a significant challenge to renewable energy projects, as it did in the recent case of the Cape Wind Farm in Nantucket Sound in Massachusetts. In this case, *Alliance to Protect Nantucket Sound v. United States Department of the Army*, local groups in Nantucket Sound challenged the authority of the U.S. Army Corps of Engineers to permit the construction of a data tower for a potential wind farm in Nantucket Sound. People whose interests will be directly affected by building a renewable energy plant or transmission line may challenge the project if their interests are not addressed in the permitting, siting, and environmental review processes.

As discussed below, an effective collaborative process may alleviate the concerns of those who may be inclined to oppose a project that is proposed to be located at a nearby site. At the least, early efforts to engage individuals and groups who could be affected by a potential project will allow the project proponent and government regulators to get a sense of the level of concern and also to identify key stakeholders.

One such concern in siting transmission lines is the public perception that there might be serious health risks associated with the electric and magnetic fields (EMFs) around transmission lines, even though those risks are uncertain. Studies have linked an increased risk of developing cancers such as childhood leukemia from exposure to EMFs from transmission lines. However, after a meta-analysis of all the epidemiological data to date, scientists from the National Institute of Environmental Health Sciences have concluded that only a weak association exists between exposure to EMFs and the increased risk of childhood leukemia, and that evidence shows no link between exposure to EMFs and adult cancers. When addressing the development of renewable energy and construction of transmission lines, it is important to acknowledge the public perceptions of the risks associated with these projects.

Environmental advocates as a group are by no means consistent in their support of renewable energy development. Although many environmentalists strongly support renewable energy, others view renewable projects as just another form of environmental blight. In other words, just because it's a renewable energy project does not mean it will have universal support from environmental advocacy groups. A proactive effort to engage stakeholders will help project proponents and regulators learn how the project is viewed and ascertain the feasibility of modifying a project in an effort to increase public support.

An effective process to engage the public and stakeholders should include education about the various trade-offs

associated with different project alternatives. To be effective, however, the information must come from a credible source and be presented in ways that are accessible to people who have differing levels of knowledge about the type of project under consideration as well as science in general—that is, how scientific data are gathered and analyzed, what the science can and cannot tell us, and what would be necessary to study aspects that are unknown.

It is equally important for project proponents and government regulators to appreciate that the most effective education process works both ways. Proponents and regulators may have much to learn from the public and from stakeholders. For instance, it is possible that not all potential impacts have been adequately identified and addressed or that the manner in which a potential impact has been addressed has not been adequately communicated. Public outreach and stakeholder engagement provide a crucial opportunity for project proponents and regulators to learn about ways to improve a project, mitigate its impact, and explain the project more effectively.

Current State of Renewable Energy

Renewable energy technologies are gaining support in the United States as a result of the American Recovery and Reinvestment Act of 2009, the push by the Department of the Interior (DOI) to develop renewable energy on public lands, and the nation's interest in energy independence. Because of U.S. dependence on foreign oil and concern about climate change, there is a renewed interest in developing technologies for energy independence that generate no emissions of carbon dioxide. The goal of the effort to implement renewable energy projects, a principal component of the American Reinvestment and Recovery Act, is to double domestic production of renewable energy in the next three years. The act includes \$2.5 billion set aside for the Department of Energy's Office of Energy Efficiency and Renewable Energy research, development, and deployment of renewable energy and allocates \$400 million for the Geothermal Technologies Program.

In addition to the American Recovery and Reinvestment Act, on March 11, 2009, Secretary of the Interior Ken Salazar issued a secretarial order that made renewable energy a top priority for his department. The DOI has jurisdiction over 20 percent of the landmass in the United States as well as 1.7 billion acres of the Outer Continental Shelf. Currently, on land run by the U.S. Bureau of Land Management, there is a backlog of more than 200 proposed solar energy applications in the Southwestern states and 20 proposed wind energy applications in the Western states. Encouraging renewable energy and transmission of energy on public lands will be addressed through a DOI task force established by the secretarial order to study energy and climate change.

Addressing the Challenges

The implementation of renewable energy projects in the United States will present the potential benefits of producing domestic sources of energy that are renewable and have zero emissions of carbon dioxide. However, renew-

able energy projects will also face challenging opposition that may hinder the development of these projects if the challenges are not addressed. One way to address potential challenges is through collaboration.

Ignoring siting issues doesn't usually solve anything and frequently the problems get tougher to solve with the passage of time. The costs, which can quickly mount if issues are not addressed early, include expenditures for the following:

- drawn out and costly litigation,
- delayed or extended planning processes,
- project delays,
- cancellation of the project,
- less-than-optimal outcomes and lost opportunities, and
- escalation of hostility and antagonism among stakeholders.

How can these costs be minimized? Environmental conflict resolution (ECR) is one way to address issues that have cropped up and those that are likely to arise in the future. The planning stage of a project is the best time to consider the concerns of those who will be involved in or affected by the project—the stakeholders.

Environmental conflict resolution in the federal context was defined in a policy memorandum issued by the Office of Management and Budget (OMB) and the Council on Environmental Quality (CEQ) in 2005: "Third-party assisted conflict resolution and collaborative problem solving in the context of environmental, public lands, or natural resources issues or conflicts, including matters related to energy, transportation, and land use." ECR includes an assortment of agreement-seeking processes that are aimed at improving decision-making about the environment and use of public lands and natural resource by involving stakeholders in creative and collaborative problem-solving. Environmental disputes or controversies about many issues and among several parties often take place in settings marked by high conflict and low trust—an atmosphere in which the assistance of impartial facilitators or mediators can be instrumental in reaching agreement and resolution. Depending on the case, stakeholders in environmental and land use issues can include federal, state, local, and tribal governments; public interest, citizen, trade, and industry organizations; and individuals such as leaseholders of public lands, those holding rights to resources on public lands, and businesses owners. It is important to note that starting collaboration before intense conflict arises can increase the chances of successful resolution.

Some examples in which environmental conflict resolution has been helpful include:

- management of public lands so that people can use and enjoy them in different ways; ECR can lead to planning how a national forest can serve future needs for watershed protection, timber harvesting, power generation, and recreation;
- disputes about the use of natural resources; ECR can be used to allocate rights to use water resources fairly;
- conflicts over the siting of facilities; ECR can help parties

arrive at an agreement on where to locate roads, dams, power lines, or wind farms;

- disagreements about protected areas; ECR can help find a site for a power line while still protecting a sensitive natural area in a park;
- issues involving protecting endangered species; ECR can help parties determine how to implement a renewable energy project without adversely affecting endangered species; and
- relations between the federal and tribal governments; ECR can exhibit ways to respect tribal sovereignty and protect sacred sites when the government is planning or implementing projects.

Not only can environmental conflict resolution minimize the costs related to conflicts, it can also maximize the benefit of collaboration in solving the problems. These benefits can include better-informed solutions; increased commitment to solutions; establishment of productive working relationships; and opportunities to develop shared, innovative, timely, and cost-effective solutions that are ultimately workable.

Federal Government's Use of ECR

Environmental conflict resolution is not a new approach for the federal government. In the 1970s, major new national legislation was created following passage of the Wilderness Act of 1964—for example, the Clean Air Act (1970), the National Environmental Policy Act (1969), the Endangered Species Act (1973), the National Forest Management Act (1976), the Resource Conservation and Recovery Act (1976), and the Federal Land Policy Management Act (1977). Implementation of these new acts led to additional lawsuits and conflicts. NEPA, in particular, led to increased expectations for public participation in federal government decision-making. Much later, the Administrative Dispute Resolution Act of 1996, amended in 1998, provided guidance for federal agencies to use dispute resolution processes to avoid litigation. In 1998, Congress established the U.S. Institute for Environmental Conflict Resolution to help resolve environmental disputes that involve the federal government by providing mediation, training, and related services. In 2005, a policy memorandum dealing with ECR issued by the OMB and the CEQ directed agencies to “increase the effective use of environmental conflict resolution and build institutional capacity for collaborative problem solving.”

Most recently, the President's Memorandum on Transparency and Open Government stated:

Government should be collaborative. Collaboration actively engages Americans in the work of their Government. Executive departments and agencies should use innovative tools, methods, and systems to cooperate among themselves, across all levels of Government, and with nonprofit organizations, businesses, and individuals in the private sector. Executive departments and agencies should solicit public feedback to assess and improve their level of collaboration and to identify new opportunities for cooperation.

The policy memorandum released by the OMB and CEQ requires annual reporting to both agencies. The ECR reports submitted by relevant federal agencies must highlight the progress being made in meeting the goals defined in the policy memorandum. The following is a summary of ECR use and progress implementing the guidelines included in the memorandum, as reported by 19 federal departments and agencies for fiscal year 2007:

- ECR use in the federal government has increased to more than 300 cases per year.
- ECR is being used to reduce environmental conflicts and to improve environmental decisions in mission critical areas—including environmental cleanup and restoration, natural resource management on federal land, species and habitat conservation, coastal zone management, historic preservation, consultation with tribes, and development and management of energy infrastructure.
- ECR use is greatest in the areas of compliance and enforcement, land and resource planning, and monitoring and implementing federal programs (mostly in the arena of cleanup related to the Superfund program). ECR is also used in the contexts of policy development, permitting, rulemaking, and siting and construction of facilities. The Environmental Protection Agency (EPA) is the lead user of ECR in the area of compliance and enforcement; the Department of the Interior and the U.S. Forest Service are primary users in the area of planning; and Department of the Navy reports the most use in the area of implementation and monitoring.
- New priority areas where departments and agencies report that using ECR could be beneficial include offshore pipeline access (reported by the DOI), regulatory development (reported by the EPA), transportation (reported by the Department of Transportation), the Superfund program (reported by the EPA), habitat improvement (reported by the DOI), grazing disputes (reported by the DOI), collaborative policy-making in science and technical areas (reported by the DOI), regulations governing licensing for in situ leaching (reported by the National Research Council), processing (reported by the National Research Council), and regulations regarding site cleanup (reported by the National Research Council).
- Departments and agencies are focused on increasing the appropriate and effective use of ECR, thereby promoting ECR where it adds the greatest value. A critical component of this effort is documenting the role of ECR in minimizing the costs of conflict and maximizing the benefits of collaboration. Benefits documented across a spectrum of agencies include ability to avoid litigation costs, expedited project implementation time lines, innovative solutions, and improved working relationships among stakeholders that help solve current issues and will help manage issues in the future.
- Most agencies report that greater use could be made of ECR for more effectively addressing current environmental governance challenges in the agencies' program areas. All agencies regularly using ECR have invested in training to build core competencies in conflict resolution and

collaborative problem-solving. Training, which is seen as a key to increasing the effective use of ECR, has focused on staff members of federal agencies but has also been extended to broader audiences of affected stakeholders, including representatives of state and local governments, tribal nations, nongovernmental organizations, environmental advocates, community-based groups, and attorneys who specialize in cases involving the environment and use of natural resources.

Use of ECR in Planning Renewable Energy Projects

Two large-scale collaborative planning efforts for renewable energy projects and power lines are under way, and it is worth watching what happens with them. The Western Renewable Energy Zones collaborative project, launched by the Western Governors Association and the U.S. Department of Energy in 2008, was created to encourage renewable energy projects in the Western states. The collaborative will designate zones for cost-effective and environmentally sensitive renewable energy projects and develop a conceptual plan for power transmission to deliver renewable power from those zones to the load centers in the West.

The second effort, the California Renewable Energy Transmission Initiative, is a collaborative stakeholder planning process initiated by the California Public Utilities Commission, the California Energy Commission, and the California Independent System Operator, together with publicly owned and investor-owned utilities. The group has a 29-member Stakeholder Steering Committee whose members work in collaboration to develop specific plans for the development of renewable energy sources and related transmission projects throughout the state.

Recommendations

If the development of renewable energy projects includes genuine collaboration with stakeholders, the chances that the proposed project will succeed are greatly increased.

At the very initial stages of a project, project proponents and relevant government agencies should develop a comprehensive plan for public outreach and stakeholder collaboration throughout the project development and review processes. The National Environmental Policy Act requires some level of outreach and opportunity for input on projects that have an impact on federal land or programs, but the act and the implementing regulations leave how this is done and how often this is done largely to the discretion of the lead federal agency. Limited outreach and collaborative efforts can undermine a project by creating a perception that public participation is too late or too limited in the process to influence project design or key alternatives. Project proponents and reviewing agencies should consider how to use collaboration throughout the process.

The following principles provide an essential framework when considering or designing a collaborative process:

- Goals and expectations should be set and clearly articulated.
- Key issues should be identified.
- All affected stakeholders should be properly represented.
- Legal requirements and any other boundaries of the decision space should be defined.
- The process and the ground rules should be clearly defined.
- The participants' commitment to using the results obtained from the process should be elicited.
- Necessary resources (funding, staff, data, and so forth) should be identified and assessed and their availability should be ensured.
- The necessity or benefit of using a neutral party to facilitate the collaborative effort should be determined.

Two items deserve particular mention. The first issue is the importance of determining the appropriate level of involvement by stakeholders and the public. This effort can range from simply informing affected parties about the proposal or project to seeking their input and making decisions jointly. The more involved the stakeholders are in the design of the process and in decision-making, the more vested they will be in the process and the more likely they will be to support the process and its outcome.

The second item that should be noted is the importance of setting expectations. The convener of the process must be absolutely clear about the role of the public and stakeholders in the process as well as the constraints on any alternatives for consideration or on the final decision. Otherwise, individuals and groups will be unable to make an informed decision about whether or not to participate and how to participate.

More important, without this information, the parties are likely to become extremely frustrated or dissatisfied with the process. For instance, participants invited to provide feedback must be informed about how their feedback will be used in the decision-making process. By the same token, having set expectations, the convener must meet them. If the convener requests input, he or she must demonstrate how the input was used and what impact it had on the decision-making process. Otherwise, participants are likely to conclude that the process was not legitimate and may even challenge the process and the decision. Without this information, individuals and groups will be reluctant to participate in future collaborative efforts.

An effective collaborative process creates an environ-

ECR may not work when ...

- Resolving the issue doesn't seem that important to key stakeholders.
- One or more key parties have other avenues to better achieve their interests.
- Not everyone involved agrees that there is an issue.

ECR works best when ...

- Issues are a high priority for all parties.
- All affected stakeholders are willing and able to participate in the process.
- No single party can resolve the situation on its own.
- Outcomes are genuinely in question.

ifying water rights, such as the Klamath River Basin Compact of 1957 and the Bear River Compact of 1958.

The Rise of Environmental Law

The American public's awareness of environmental issues increased in the 1960s, spurred by events such as the publication of Rachel Carson's *Silent Spring*, a massive oil spill off the coast of Santa Barbara, Calif., and the fires on the Cuyahoga River in 1969. The Public Lands Division began to explore the use of existing environmental statutes to clean up pollution. In 1961, the division brought the first enforcement action under the 1948 Federal Water Pollution Control Act in a case against the city of St. Joseph, Mo., for pollution of the Missouri River, and, in response to the filing of the suit, the city initiated sewer improvements to abate the problem. In 1970, the division litigated its first civil cases based on a section of the Rivers and Harbors Act of 1899 known as the Refuse Act.² Prior to 1970, however, most environmental laws did not provide for enforcement authority.

A wave of new environmental legislation started in 1970 with the enactment of the National Environmental Policy Act and the modern Clean Air Act. The U.S. Environmental Protection Agency was also established that year, creating what is now one of the division's most significant client agencies. The Water Pollution Control Act followed in 1972, the Endangered Species Act in 1973, and the Comprehensive Environmental Response, Compensation, and Liability Act in 1980. The passage of these statutes and their successors transformed the work of the Public Lands Division and made civil and criminal enforcement of these laws one of the division's major tasks. In addition, federal agencies took on an increasing role in issuing regulations and taking actions under these laws. Defending these agencies' actions also grew to occupy a significant portion of the division's time and resources. In recent years, the division has been involved in nearly all of the groundbreaking cas-

es interpreting statutes relating to the environment, natural resources, and wildlife preservation, as well as administrative law, and continues to litigate the most significant cases in these fields. In 2008 alone, the division was involved in nine cases heard by the U.S. Supreme Court.

As the nation grew and developed, so did the division's responsibilities. As a result, to reflect those increasing responsibilities, the division's name was changed over time—from the Public Lands Division, to the Lands Division, to the Land and Natural Resources Division, and finally to the Environment and Natural Resources Division. The division's priorities will continue to change as new needs and challenges arise. Today, in addition to its Executive Office, the Land and Natural Resources Division consists of nine litigating sections: Appellate, Environmental Enforcement, Environmental Defense, Indian Resources, Land Acquisition, Law and Policy, Natural Resources, Environmental Crimes, and Wildlife and Marine Resources. With offices in Washington, D.C., Anchorage, Boston, Denver, Sacramento, San Francisco, and Seattle and a staff of more than 600 people, the division currently handles more than 6,000 active cases and has represented virtually every federal agency in courts all over the United States and its territories and possessions.

The Environment and Natural Resources Division is planning a series of events and publications to commemorate its centennial. More information about the division and these activities may be found at www.usdoj.gov/enrd. **TFL**

Endnotes

¹*Pan Am. Petroleum & Transp. Co. v. U.S.*, 273 U.S. 456 (1927); and *Mammoth Oil Co. v. U.S.*, 275 U.S. 13 (1927).

²For example, *U.S. v. Fla. Power and Light Co.*, 311 F. Supp. 1391 (S.D. Fla. 1970) (addressing thermal pollution); *U.S. v. Armco Steel Co.*, 333 F. Supp. 1073 (S.D. Tex. 1971) (addressing discharge of toxic wastes).

CHALLENGES *continued from page 54*

ment that enables a constructive exchange of information between project proponents, regulators, and affected stakeholders. Ideally, this undertaking will result in a better project and broader support for the project. At minimum, an effective process will clarify the issues in dispute and narrow their scope.

The incentives for properly siting facilities that will generate renewable energy and related power transmission lines are growing. But the process at arriving at a decision that will satisfy the majority of affected parties and will minimize the risk of challenges and impediments is complex and is likely to be contentious. Environmental conflict resolution offers a way to navigate the process more effectively and productively. **TFL**

Lynne Gillette is the director of operations for the U.S. Institute for Environmental Conflict Resolution. She spent 15 years in Washington, D.C., at the U.S. Environmental Protection Agency and the U.S. Department of Energy, where

she worked primarily on renewable energy and issues involving exposure to electric and magnetic fields around transmission lines. Jeff Silwyn is general counsel for the same institute and its parent federal agency, the Morris K. Udall Foundation. Rebecca Guiao is an intern at the agency; she graduated from Western Washington University and will be pursuing her J.D. at Lewis and Clark Law School this fall. The perspectives expressed in this piece are those of U.S. Institute staff Lynne Gillette, Jeff Silwyn, and Rebecca Guiao and do not necessarily reflect the institutional perspective of the U.S. Institute for Environmental Conflict Resolution. Any errors or omissions are solely the responsibility of the authors.

