

Siting Renewable Electric Infrastructure in the Southwest [\(Back to Top\)](#)

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I. Introduction

Renewable Energy, Why Now?

As it has in the past, renewable energy is again hailed as the future. In the 1970s, renewable energy was touted as one part of the solution for the energy crises. The movement lost momentum, however, when low oil prices reappeared in the 1980s.

Today, energy independence is again a driver for renewable energy, but it is not the only one. Concern about climate change is a second critical factor in the current renewable energy frenzy. Renewable energy development is being directly pursued through various state renewable portfolio standards, which mandate that public utilities acquire certain percentages of power from renewable sources. Given recent congressional proposals, such as the American Clean Energy and Security Act of 2009 (also known as the Waxman-Markey bill), it appears the federal government is likely to jump into the renewable portfolio standard business too. Additionally, the federal government also appears poised to facilitate renewable energy indirectly through greenhouse gas regulations and concomitant costs on conventional energy sources. The version of the Waxman-Markey bill that passed the House on June 26, 2009, mandates a reduction in greenhouse gas emissions to 17 percent below the 2005 levels by 2020 and 83 percent below the 2005 levels by 2050.¹ As a result, renewable energy sources will look more attractive when compared to conventional sources of power and provide a hedge against the uncertainty of the true cost of greenhouse gas regulation.

Additionally, renewable energy is viewed as a key economic development strategy. The recently enacted federal stimulus bill includes billions in grants and loans for transmission grid development and billions more in tax incentives and grants to facilitate renewable energy developments.² States are getting in the act as well. Using tax incentives, renewable energy portfolio standards, and other mechanisms, southwestern states are competing for the jobs and tax base that renewable plants and associated manufacturing facilities will

bring. These additional factors suggest renewable energy will finally begin to fulfill its potential.

Challenges

However, despite the current momentum, many obstacles remain. The focus of this article is on one of those challenges, the licensing processes that utility-scale renewable energy projects in the Southwest must navigate.

Despite the climate-friendly nature of these projects, they do have real environmental impacts given the size and location of the plants. A typical concentrated solar power plant requires at least five acres per MW, so a 200 MW plant requires 1,000 acres of land. Additionally, the transmission lines to move power from remote generation to urban areas needing the power also have environmental impacts and are frequently opposed by those who live nearby.

Finally, land in the Southwest is a checkerboard of federal, state, and private lands. Each brings unique challenges and benefits and many projects will cross multiple types of lands and, therefore, require multiple, parallel approvals. This article summarizes the licensing approvals required and the considerations that come into play when deciding whether to use federal, state, or private lands.

II. Licensing Approvals

A. Federal Land Managers

In the Southwest, federal lands are managed by a number of federal agencies including the Bureau of Land Management, Forest Service, and the Fish and Wildlife Service, among others. Each of these federal land managers has its own process for processing right-of-way applications to construct and operate renewable energy facilities and the transmission lines needed to serve them.

While the processes are not identical, they share one common bond: all require compliance with the National Environmental Policy Act ("NEPA"). NEPA requires the federal government to assess the environmental impact of "major Federal actions significantly affecting the quality of the human environment."³ Federal licensing for utility-scale renewable projects and the transmission lines necessary to carry generation to loads certainly fit the bill of actions that significantly affect the environment and, therefore, NEPA compliance is

required. Complying with NEPA's procedural requirements and obtaining federal rights-of-way is typically a multi-year process.

B. State Trust Land Departments

When the federal government established territories and states in the western United States, it reserved some lands to be held in trust, primarily for the benefit of education. These lands, commonly referred to as state trust lands, occupy a significant portion of the southwestern landscape. For example, New Mexico has approximately 13 million acres in trust. Arizona holds approximately nine million acres.

To site a plant or transmission line on state trust lands, approval must be obtained from the state land department.⁴ Each state has different processes that work in similar ways. Unlike the federal process, which focuses primarily on the environmental impact, the focus of the state land process is to maximize revenues and preserve trust assets for the trust's beneficiaries.

C. State Public Utility Commissions

In addition to the authorization needed to use federal lands and state trust lands, approvals must also be obtained from state public utility commissions.

1. Federal Siting Authority

Historically, states have had the exclusive authority to site electric transmission lines. The Energy Policy Act of 2005 was an effort to change the status quo. Section 1221 provided the Federal Energy Regulatory Commission ("FERC") with the authority to site electric transmission lines in designated National Interest Energy Transmission Corridors in the event a state siting commission either lacked the authority to approve a transmission project or withheld approval for more than one year.⁵ This authority is generally referred to as "backstop" siting authority.

In rules promulgated to implement the new statutory authority, FERC determined that it would also exercise jurisdiction over projects in which a state commission denied a transmission line application.⁶ However, in February 2009, the Fourth Circuit concluded that FERC's rule was unlawful, casting into doubt the efficacy of FERC's backstop authority.⁷ Congress is considering various legislative proposals that would give FERC additional jurisdiction over interstate electric transmission lines (as FERC currently has with respect to interstate natural gas pipelines).

At this time, the state utility commissions still have primary responsibility for siting transmission lines within their state borders. The following brief summary of the siting process for Arizona and Nevada demonstrates that these two states are actively promoting the development of renewable generation.

2. Arizona Corporation Commission

Transmission lines of 115 kV or more, and power plants of 100 MW or greater (with limited exceptions)⁸ must receive state commission authorization through a two-step process. First, projects must obtain a certificate of environmental compatibility ("CEC") from the Arizona Power Plant and Transmission Line Siting Committee (the "Committee") following an evidentiary hearing.⁹ Interested parties, including landowners, members of the public, environmental groups, municipalities and others, may intervene and participate in the process, which participation may include presenting witnesses, cross-examining the applicant's witnesses, and filing legal memoranda.¹⁰ After the Committee decides whether or not to grant a CEC, the Arizona Corporation Commission ("ACC") reviews the Committee's decision.¹¹

The environmental factors that must be considered by the Committee are set forth in A.R.S. §40-360.06 and include: existing land use plans of the state, local government and private entities for other developments at or in the vicinity of the proposed site; biological resources; visual impacts; and cultural impacts. Another environmental factor is set forth in A.R.S. §40-360.13, which requires that the Committee consider the availability of groundwater and the impact of the use of groundwater for facilities within the service areas of the city or town in an active management area.

Ultimately, the CEC must be approved by the ACC under the standard set forth in A.R.S. §40-360.07(B):

In arriving at its decision, the commission shall comply with the provisions of section 40-360.06 and shall balance, in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize the effect thereof on the environment and ecology of this state.

It is important to note that the state utility commission authorization does not eliminate the need to obtain land use and zoning approvals from local municipalities. Localities have zoning ordinances and general plans that must be addressed if the project is sited on private land and often require some environmental analysis. In addition, other state or local environmental agencies often have oversight with respect to environmental impact.

3. Nevada Public Utilities Commission

Siting of a utility facility, including renewable energy infrastructure, in Nevada must be done in compliance with the Utility Environmental Protection Act ("UEPA") and with approval of the Nevada Public Utilities Commission ("NPUC").¹² A utility facility is defined as: (1) electric generating plants and their associated facilities; and (2) electric transmission lines and substations that operate at 200 kV or more are not required by local ordinance to be underground and are constructed outside an incorporated city.¹³ Electric generating plants using renewable energy and having a nameplate capacity of 70 MW or less are excluded from the NPUC's jurisdiction.¹⁴

If the generating facility or transmission line is within the NPUC's jurisdiction, the owner must obtain a UEPA permit before commencing construction.¹⁵ The NPUC considers the following when determining whether to approve an application for a UEPA permit:

- Nature of the probable effect on the environment
- Extent the facility is needed to ensure reliable service to Nevada customers
- Whether the need balances any adverse environmental effect
- Whether the facility represents the minimum adverse environmental effect, considering available technology and the nature and economics of the alternatives
- Whether the facility location conforms to state and local laws and regulations
- Whether the applicant has or is in the process of obtaining all other required permits, licenses and approvals required by federal, state, and local laws and regulations
- Whether the facility will serve the public interest.¹⁶

The UEPA application must also be submitted to the Nevada Division of Environmental Protection.¹⁷ If the proposed location is on federal lands, the applicant will also have to comply with federal environmental laws and regulations, including NEPA. The environmental studies done in accordance with NEPA must be submitted to the NPUC.¹⁸

As in Arizona, any facility approved by NPUC will also have to comply with local ordinances. These may include, but are not limited to, zoning criteria, building permits, electrical permits, and requirements that distribution lines be placed underground.

III. Siting Considerations: Federal, State, or Private Lands

Superior energy production potential, close access to transmission, and sufficient water (if needed) are prerequisites for identifying possible sites for renewable energy projects. Land

ownership will determine the process, time, and expense associated with obtaining the authorizations required to build and operate the project.

A. Federal lands

Siting renewable energy projects on federal lands has benefits and drawbacks. On the positive side of the ledger, land acquisition costs historically have been less than the costs of acquiring state trust land or private land. Additionally, so long as the project is on land designated for utility development by the applicable federal land manager, the likelihood of eventual approval is quite good. However, on the other side of the spectrum, some federal lands are designated as national monuments or natural preserves. Such lands usually are considered not compatible with major transmission projects. Lands that are identified as neither a utility corridor nor as a national monument are “gray areas” that may be designated as “open space.”

Another concern with the use of federal lands is the long licensing timeframe, given the time associated with the NEPA process. In addition to the time-intensive procedural requirements of NEPA, another concern with siting projects on federal land is the sheer number of proposals that have already been submitted. In effect, the federal government is dealing with a land rush. To address this problem systematically, rather than on a project-by-project basis, BLM and DOE are in the process of developing a programmatic environmental impact statement (“PEIS”) for utility-scale solar energy developments on federal lands.¹⁹ While this approach is understandable, it will inevitably increase the time necessary to obtain approval on federal lands. The public comment period in this proceeding was recently extended until September 14, 2009²⁰ and the release date of the draft PEIS is still “to be determined.”²¹ The completion of the final PEIS and the Record of Decision in this proceeding are also “to be determined.”²²

In addition to timing, the use of federal lands often brings objections from conservationists and outdoor enthusiasts. Environmental groups often prefer the use of previously disturbed private land than federal land. In that vein, Senator Dianne Feinstein announced recently that she planned to introduce legislation to prohibit the development of renewable energy projects on hundreds of thousands of acres in the Mohave Desert.²³

Yet another concern with siting projects on federal land is the potential for conflicting approvals from state and federal agencies. On federal lands, a project proponent must obtain authorization from both the federal land manager and the state utility commission. If the federal land manager and the state utility commission have different opinions on where the project should be located, the project is stuck in limbo. This is not just a speculative

concern. In one Arizona line siting case, the Arizona Corporation Commission approved a route through U.S. Forest Service land.²⁴ The U.S. Forest Service refused to grant the same right-of-way that the Commission deemed necessary to provide reliable service to the Nogales area.²⁵

B. State Trust Lands

State trust lands can be an attractive choice for siting projects. The approval process can be run concurrently with other siting requirements, and state trustees are generally willing sellers or lessors, so long as it can be shown that the benefits to the trust outweigh any harm to other trust lands located adjacent to or near the proposed facility. Impact to trust lands can be reduced by siting infrastructure along section lines and other linear features.

One potential concern with siting on state trust lands is the fact that approvals from both the state land department and the state utility commission are required. In the event that the two state agencies do not agree on the same site, the project cannot be built. Historically, the risk of conflicting approvals between two state agencies is less than the risk of disparate federal and state ones. As more and more facilities are proposed, however, the risk of conflict inevitably rises.

C. Private Lands

Siting projects on private land can be ideal from a timing and risk standpoint, so long as willing sellers exist for both the plant site and the transmission line. If willing sellers have not been identified beforehand, a developer must determine whether he can acquire the lands through eminent domain, if necessary.

As part of their review, state utility commissions will assess the impacts of the project on the land proposed for the project as well as nearby properties. There are usually three major issues in evaluating the impact of a project on private land.

- First, is the land currently in use? Is the private land developed with dwellings or commercial buildings that might be “taken” by placement of the project? State siting authorities will try to avoid such a route.
- Second, is the private land undeveloped but the subject of pending or approved plans, such as planned area developments and approved plats? Again, siting authorities will give weight to those future plans as required by the state law, but must balance the project's impact on such future plans against the need for the project.

- Third, if the private land is not developed nor the subject of any future plans, the private landowners may be concerned that the transmission line will negatively affect the future value of the land.

IV. Conclusion

While the development of renewable energy projects has the potential to provide numerous benefits to the region and the country, navigating the minefield of licensing requirements without delays or setbacks is critical to move projects from the drawing board to reality. Careful consideration of these issues early in the process will help ensure the licensing process is as straightforward and timely as possible.

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¹ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 703 (as passed by House, June 26, 2009).

² American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

³ 42 U.S.C. § 4332.

⁴ See, e.g., A.R.S. § 37-461 (Grants of rights-of-way and sites for public uses).

⁵ Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005) (codified at 16 U.S.C. 824p).

⁶ Filing Applications for Permits to Site Interstate Electric Transmission Facilities, 71 Fed. Reg. 69,440, ¶ 26 (Dec. 1, 2006).

⁷ *Piedmont Environmental Council v. FERC*, 558 F.3d 304 (4th Cir. 2009).

⁸ Under A.R.S. § 40-360, a "plant" is defined to be a thermal electric, nuclear or hydroelectric generating unit. As a result, certain solar technology such as concentrating solar power ("CSP") that make use of the sun's heat are considered thermal projects and are subject to the CEC process. Other solar projects, such as certain types of photovoltaic projects that use the light from the sun rather than the heat, are not subject to the CEC process. Wind generated facilities, because they are not thermal, do not need a CEC. However, facilities that do not need a CEC for the plan may still need a CEC for the transmission lines necessary to connect the facility to the transmission grid."

⁹ A.R.S. § 40-360.03.

¹⁰ A.R.S. § 40-360.05(A) (parties to a proceeding); and A.R.S. § 40-360.04(C) (receipt of evidence).

¹¹ A.R.S. § 40-360.07.

¹² N.R.S. 704.865.

- ¹³ N.R.S. 704.860.
- ¹⁴ N.R.S. 704.860(1).
- ¹⁵ N.R.S. 704.865.
- ¹⁶ N.R.S. 704.890(1).
- ¹⁷ N.R.S. 704.870(3); and 704.875.
- ¹⁸ N.R.S. 704.870(1)(b).
- ¹⁹ Notice of Intent to Prepare a Programmatic Environmental Impact Statement to Evaluate Solar Energy Development, Develop and Implement Agency-Specific Programs, Conduct Public Scoping Meetings, Amend Relevant Agency Land Use Plans, and Provide Notice of Proposed Planning Criteria, 73 Fed. Reg. 30,908 (May 29, 2008).
- ²⁰ Notice of Extension of Public Comment Period for Programmatic Environmental Impact Statement To Develop and Implement Agency-Specific Programs for Solar Energy Development, 74 Fed. Reg. 37,051 (July 27, 2009).
- ²¹ Solar Energy Development Programmatic EIS Information Center, *Solar Energy Development Programmatic EIS Schedule*, <http://solareis.anl.gov/eis/schedule/index.cfm> (last visited July 29, 2009).
- ²² *Id.*
- ²³ See, e.g., Richard Simon, *Feinstein wants desert swaths off-limits to solar, wind*, L.A. Times, March 25, 2009, <http://articles.latimes.com/2009/mar/25/nation/na-desert25>.
- ²⁴ Arizona Corporation Commission, Line Siting Case 111, Docket No. L-00000C-01-0111-00000.
- ²⁵ *Id.*