

# Utility-Scale Solar Power

## Strategic Planning for Habitat Conservation

### Overview

To produce clean power cost-effectively, utility-scale solar (USP) power plants often cover a sizeable land area. This may require grading of the land and other alterations, including fencing and road construction, which can affect the habitats of local and migratory species. The laws and regulations governing power plants' environmental compliance in the United States, particularly in California, are among the most stringent and detailed in the world with regard to mitigating the possible impacts of such facilities on wildlife. As a result, the solar industry has developed extensive experience with and sensitivity to handling habitat issues.

### Environmental Review

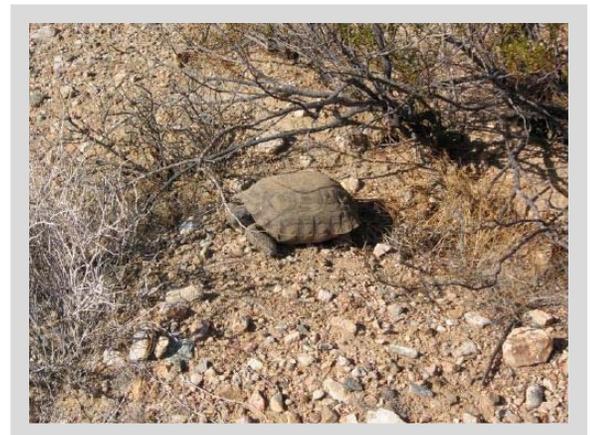
Every single USP solar project proposed on either private or public lands in the U.S. Southwest must navigate complex federal, state, and local regulatory channels regarding natural resources and habitat conservation. Through the Bureau of Land Management (BLM), the U.S. Department of Interior is authorized to permit the development of solar and other energy projects on federal public lands.<sup>1</sup>

BLM right-of-way (ROW) permits undergo a strict review process before being issued, as required by the National Environmental Policy Act of 1969.<sup>2</sup> Solar companies provide detailed project construction plans, conduct numerous environmental studies, prepare Environmental Impact Statements (EIS), and propose mitigation strategies.

The BLM, in coordination with the U.S. Fish and Wildlife Service, state and local authorities, conducts analyses of the site and holds public hearings with members of the community to gauge the impact of the project on the area. An EIS is issued for each project before the final Record of Decision is announced. Environmental review of a proposed solar power plant on public lands can take three to five years.<sup>3</sup>

Under direction from Congress and the president, federal agencies have issued a Draft Programmatic Environmental Impact Statement (PEIS) for solar development on public lands.<sup>4</sup> The goal is to adopt best practices and policies to expedite the permitting of worthy projects. The solar industry is actively engaged in crafting these policies.

To date, BLM has permitted 16 solar power plants and connected actions, which will provide nearly 5,908 megawatts of generating capacity, on public lands.



Source: BrightSource Energy

### Important Federal Legislation

- Federal Land Policy and Management Act of 1976
- National Environmental Policy Act of 1969
- Endangered Species Act of 1973
- Clean Water Act of 1977
- Migratory Bird Treaty Act of 1918
- Bald and Golden Eagle Protection Act of 1940

### Related Agency Jurisdiction

- U.S. Bureau of Land Management
- U.S. Fish and Wildlife Service
- United States Army Corps of Engineers

## Strategic Planning in Action

When managing solar projects sited near sensitive habitats, solar project developers have consulted closely with federal and state agencies to ensure maximum protection and conservation.

## Current Projects

- BrightSource Energy, Inc. is consulting with agencies regarding its proposed 370 megawatt Ivanpah Solar Electric Generating System on public land in San Bernardino, Calif. Among its habitat and land mitigation plans, the company developed a Desert Tortoise Translocation Plan and a Revegetation and Reclamation Plan, including the purchase of 4,000 acres of land to relocate the tortoise and other sensitive plant and animal species.<sup>5</sup>
- SolarReserve, LLC is progressing with its 100 megawatt Power Tower CSP plant, the Crescent Dunes Solar Energy Project, which will be located northwest of Tonopah, Nev. Developers will install and maintain transmission lines in accordance with guidelines that ensure the least possible interference with local bird populations, while also monitoring the nest of a nearby endangered golden eagle during and after construction. To deter small wildlife creatures, 8-foot high fences will be installed around the evaporation ponds.<sup>6</sup>
- SunPower Corporation has started construction on its 250 megawatt California Valley Solar Ranch in San Luis Obispo, Calif. SunPower redesigned the project's PV array layouts to substantially avoid sensitive biological resources, including eliminating one array to reduce impacts on the Giant Kangaroo Rat (GKR) population. To promote wildlife migration, SunPower also removed some exclusionary fencing.<sup>7</sup>
- NextEra Energy Resources, LLC has commenced construction on the Genesis Solar Energy Project, a 250 megawatt parabolic trough plant located in Blythe, Calif. After a rigorous environmental impact review by BLM and state and local agencies, NextEra will purchase roughly 2,000 acres of habitat for Mojave lizards and the desert tortoise to offset the land required for the project.<sup>8</sup>



Source: NREL

## About the Solar Energy Industries Association®

Established in 1974, the Solar Energy Industries Association is the national trade association of the U.S. solar energy industry. Through advocacy and education, SEIA and its 1,100 member companies are building a strong solar industry to power America. As the voice of the industry, SEIA works to make solar a mainstream and significant energy source by expanding markets, removing market barriers, strengthening the industry and educating the public on the benefits of solar energy.

For more information, please visit [www.seia.org](http://www.seia.org).

- 
- <sup>1</sup> See Title V of the Federal Land Policy and Management Act (FLPMA) of 1976. Accessed online 23 May 2011. <http://www.blm.gov/flpma/FLPMA.pdf>
- <sup>2</sup> See "Obtaining a Right-of-Way on Public Lands" (March 2009) and "Solar Energy Plan of Development" (July 2008). U.S. Bureau of Land Management. Accessed online 23 May 2011. [http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS\\_REALTY\\_AND\\_RESOURCE\\_PROTECTION\\_/cost\\_recovery.Par.58417.File.dat/ObtainingaROWPamphlet.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION_/cost_recovery.Par.58417.File.dat/ObtainingaROWPamphlet.pdf); [http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS\\_REALTY\\_AND\\_RESOURCE\\_PROTECTION\\_/cost\\_recovery.Par.96285.File.dat/Solar\\_POD.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION_/cost_recovery.Par.96285.File.dat/Solar_POD.pdf)
- <sup>3</sup> NEPA's EIS can take 24-48 months to complete, in addition to up to 12 months for BLM application processing.
- <sup>4</sup> The PEIS will guide the development of utility-scale solar projects on BLM-managed lands for the next two decades. Bureau of Land Management. Accessed online 23 May 2011. <http://solareis.anl.gov/index.cfm>
- <sup>5</sup> "Preliminary Staff Assessment - Ivanpah Solar Electric Generating System Application For Certification (07-AFC-5). December 2008. California Energy Commission. Accessed online 23 May 2011. <http://www.energy.ca.gov/sitingcases/ivanpah/index.html>.
- <sup>6</sup> "Proposed Crescent Dunes Solar Energy Project: Final EIS, Appendix E: BLM Wildlife Mitigation and Monitoring Plan." (November 2010). U.S. Bureau of Land Management. Accessed online 19 May 2011. [http://www.blm.gov/pgdata/etc/medialib/blm/nv/field\\_offices/battle\\_mountain\\_field/blm\\_information/nepa/crescent\\_dunes\\_solar.Par.86958.File.dat/Appendix%20E.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/nv/field_offices/battle_mountain_field/blm_information/nepa/crescent_dunes_solar.Par.86958.File.dat/Appendix%20E.pdf)
- <sup>7</sup> "Final Environmental Assessment Volume I: for Department of Energy Loan Guarantee to High Plains II, LLC for the California Valley Solar Ranch Project in San Luis Obispo County and Kern County, California." U.S. Department of Energy. Accessed online 29 September 2011. [https://lpo.energy.gov/wp-content/uploads/2010/10/EA-1840\\_CVSR\\_Final\\_EA\\_08-20112.pdf](https://lpo.energy.gov/wp-content/uploads/2010/10/EA-1840_CVSR_Final_EA_08-20112.pdf)
- <sup>8</sup> "Genesis Solar Energy: Final EIS, Appendix G: Conditions of Certification." U.S. Bureau of Land Management. Accessed online 23 May 2011. [http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/palmsprings/genesis.Par.19404.File.dat/Vol2\\_Genesis%20PA-FEIS\\_Apdx-G-Certification.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/palmsprings/genesis.Par.19404.File.dat/Vol2_Genesis%20PA-FEIS_Apdx-G-Certification.pdf)