Smart From the Start

Responsible Renewable Energy Development in the Southern San Joaquin Valley

ACKNOWLEDGEMENTS

This report is a product of the Central Valley Renewable Energy Project, an effort to encourage smart-from-the-start renewable energy development in one of California's most promising regions for it. Spearheaded by Defenders of Wildlife with the generous support of the Energy Foundation, the project is focused on incentivizing the siting of renewable energy projects in low-conflict areas and on degraded agricultural lands as a important strategy for accelerating renewable energy development and protecting vital natural resources. The recommendations presented in the report are based on Defenders' analysis of the opportunities and constraints for renewable energy development in the southern San Joaquin Valley—with input from government agencies, local jurisdictions, renewable energy developers, agricultural interests, the conservation community and landowners. In particular, we thank the participants in the California County Planning Directors Association's Model Solar Energy Facility Ordinance Workgroup and the following individuals for their time and insights:

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Cultivated fields, San Joaquin Valley

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Burrowing owl, a California Species of Special Concern found in the southern San Joaquin Valley

EXECUTIVE SUMMARY

California has ambitiously embarked on a path to shift its energy portfolio to renewable sources. State mandates, such as the Global Warming Solutions Act of 2006 (AB 32), coupled with the financial incentives offered to energy developers through the American Recovery and Reinvestment Act (ARRA) of 2009, have resulted in a vigorous push to increase the permitting and construction of renewable energy projects and transmission lines in the Golden State. As of late January 2012, 59 solar-photovoltaic (PV) projects were in the permitting process within the five southern San Joaquin counties. If all these proposed projects are approved and built, they will cover 23, 118 acres and potentially generate as much as 2,780 megawatts of power. This is in addition to the 45 projects already approved for another 17,570 acres that are expected to produce 1,648 megawatts of power.

Defenders of Wildlife strongly supports the carbon pollution emission-reduction goals found in AB 32, including the development of renewable sources of energy, but as we transition toward clean energy it is imperative that we strike a balance between addressing the near-term impact of industrial-scale renewable development on wildlife and wild lands and the long-term impacts of climate change on biological diversity, fish and wildlife habitat and prime agricultural lands. To achieve this, we need renewable energy planning that is "smart from the start."

Smart-from-the-start renewable energy development guides projects to low-value, low-conflict areas and degraded agricultural lands—aiming to avoid or minimize adverse impacts on wildlife, valuable agricultural lands, and high-value resource lands such as vernal pools, foraging habitat, riparian corridors and transitional biotic zones. This approach has two clear benefits: protecting vital natural resources and speeding up the permitting process for renewable energy projects.

To identify methods and opportunities for incentivizing smart-from-the-start planning for solar, wind and geothermal energy and related transmission projects, Defenders' Central Valley Renewable Energy Project tracked proposed renewable energy projects in five southern San Joaquin Valley counties: Fresno, Kern, Kings, Madera and Tulare. This is a region of intense interest to renewable energy developers because of its temperate climate and world-class solar resources. The region is also prized by conservationists because it encompasses highly sensitive wildlife habitats.

Central Valley Renewable Energy Project staff participated in renewable energy-planning workgroups and held discussions with state and federal agencies involved in siting and permitting, county-level staff and decision makers, project developers, and other stakeholders. This in-depth review of renewable energy development in the southern San Joaquin revealed five common challenges: inadequate planning capacity for power projects and transmission lines; a lack of regional coordination; insufficient focus on impaired or degraded lands; and inadequate environmental review/analysis and permitting. Defenders' Central Valley Renewable Energy Project then developed recommendations for addressing each of these challenges.

Recommendations

Address the lack of planning capacity and tools.

- Create a renewable energy clearinghouse in the Governor's Office of Planning and Research to provide land-use planning guidance and technical support to local governments undertaking renewable energy planning and permitting.
- Centralize tracking and mapping of locations, acreages and environmental characteristics of proposed renewable energy project sites and related transmission upgrades to facilitate coordinated, comprehensive land-use and environmental planning for renewable energy.
- Establish renewable energy combining or overlay zoning districts or siting criteria to incentivize smart-from-the-start renewable energy development.
- Implement tiered permitting approaches that provide for streamlined, legally minimal permitting for smart-from-the-start renewable energy projects.
- Include clearly defined smart-from-the-start development standards and siting criteria in regulatory codes adopted by local jurisdictions for renewable energy projects.
- Develop and implement best-practices-based model energy elements, development codes, and conditions of approval to build local jurisdictions' capacity to review and permit renewable energy projects efficiently.
- Provide funding to local jurisdictions for renewable energy planning.

Provide regional coordination.

- Implement comprehensive regional planning and mapping to identify the locations and siting criteria that are most appropriate for renewable energy development based on energy resources, biological resources, agricultural lands, cultural resources and land uses.
- Identify "energysheds"—areas at a regional or county level that have renewable energy resources and the appropriate land, environmental characteristics and other resources with the highest potential for effective smart-from-the-start renewable energy development.
- Adopt energy elements in local jurisdictions' general plans that are based on regional planning and identification of energysheds.
- Provide funding to local jurisdictions for regional coordination of renewable energy planning and permitting.

Improve transmission planning and capacity.

- Plan future transmission lines and systems to serve identified energysheds, incentivizing and facilitating smart-from-the-start renewable energy siting.
- Establish regional coordination among transmission authorities to avoid duplicative infrastructure.
- Urge the California Independent System Operator Corporation (ISO) to prioritize transmission lines and upgrades such as the Midway-Gregg line to serve the southern San Joaquin Valley
- Develop a centralized transmission-capacity information portal to provide current and projected transmission-capacity information to local governments and jurisdictions.

Focus on impaired or degraded lands.

- Use quantifiable analysis methods such as the Land Evaluation and Site Assessment (LESA) model to identify impaired lands. In areas with unique constraints, such as the Westlands Water District, consider developing an area-specific LESA model to further refine the analysis.
- Utilize renewable energy-specific tools for the interim management of Williamson Act contracts such as those provided by SB 618 (Wolk).

- Develop and implement smart-from-the-start criteria for renewable energy development of impaired agricultural lands.
- Pursue smart-from-the-start renewable energy-project siting on agricultural lands that are demonstrably chemically or physically impaired.
- Pursue smart-from-the-start renewable energy-project siting at degraded lands such as brownfields, closed landfills, Superfund sites, Resource Recovery and Conservation Act (RCRA) and closed mine lands.

Improve environmental review/ analysis and permitting.

- Implement consistent, defensible approaches to environmental impact analysis and mitigation. Require, at minimum, threshold biological studies; cultural resource record searches; and, for agricultural lands, site-specific soil resources reports and LESA model analysis.
- Consistently address cumulative impacts of renewable energy and related transmission upgrade projects as part of the California Environmental Quality Act process.
- Ensure early coordination of endangered-species permitting between the U.S. Fish and Wildlife Service and California Department of Fish and Game.
- Develop regional mitigation protocols and strategies for fish, wildlife and habitat to provide a more uniform, defined and coordinated mitigation approach by the agencies.
- Use "low-effect" habitat conservation plans allowed under the federal Endangered Species Act to expedite low-impact projects.

Fortunately, the strong state and federal focus on rapidly expanding the country's renewable energy portfolio provides many opportunities to implement these recommendations not only in the five southern San Joaquin counties, but also statewide—moving California farther down the path to a clean, renewable energy future.

Aerial view of farmland, Fresno County

Ivanpah Solar Electric Generating System, a controversial project in the fragile Mojave Desert

COURTESY BUREAU OF LAND MANAGEMENT

INTRODUCTION

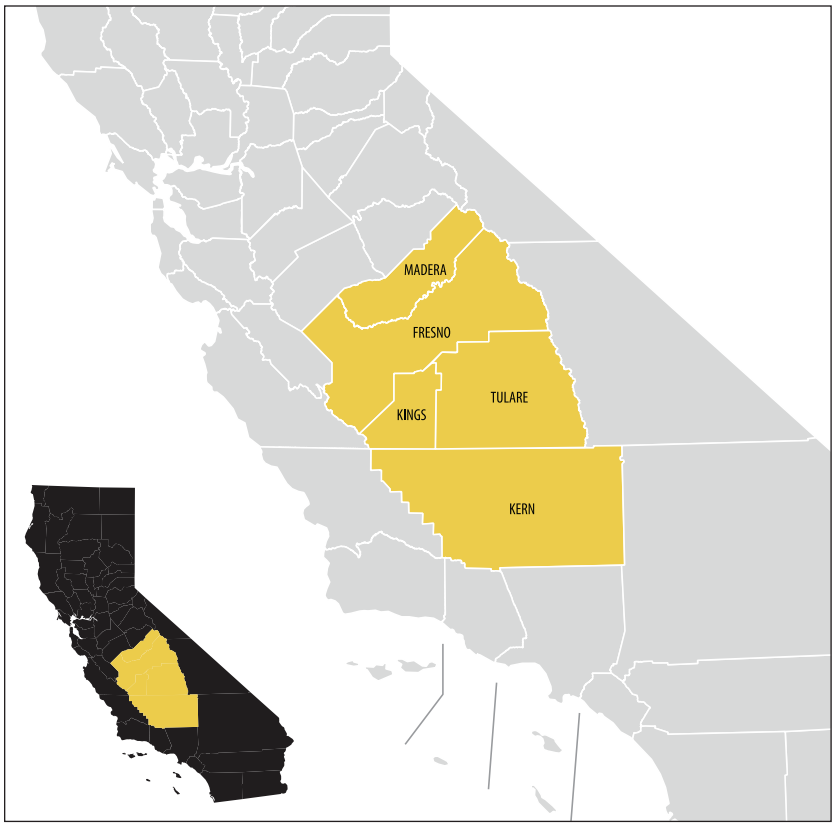
California has embarked on an aggressive path to shift its energy portfolio to renewable sources. In 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08 requiring that "...all retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020." The following year, Executive Order S-21-09 directed the California Air Resources Board, under its Global Warming Solutions Act (AB 32) authority, to enact regulations to achieve this goal. And in April 2011, Gov. Edmund G. Brown, Jr. signed SBx1-2, codifying the ambitious 2020 goal. This renewable energy mandate, coupled with financial incentives offered to energy developers through the American Recovery and Reinvestment Act (ARRA) of 2009, has resulted in a vigorous push to increase the permitting and construction of renewable energy projects and transmission lines in the Golden State.

Defenders of Wildlife strongly supports the emission-reduction goals of AB 32, including the development of renewable sources of energy. As we transition toward a clean energy future, it is imperative that we strike a balance between addressing the near-term impact of industrial-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, natural landscapes, and productive prime agricultural lands. To ensure that the proper balance is achieved, we need renewable power planning that is "smart from the start" to avoid and minimize adverse impacts on wildlife, valuable agricultural lands, and lands with known high-resource values such as vernal pools, foraging habitat, riparian corridors and transitional biotic zones. This approach provides two clear benefits: avoidance of unnecessary impacts on important natural resources and more efficient permitting for important clean-energy projects.

The necessary, rapid deployment of renewable energy projects in California has been primarily focused on federal lands in the Mojave and Colorado deserts. These lands, highly desirable for renewable energy production, are rich and fragile ecosystems. While it is important to continue to focus efforts on well-sited projects within the desert, many solar energy project developers are now seeking projects in potentially lower-impact areas such as private lands in California's southern Central Valley.

Recognizing that siting projects on impaired agricultural land and in low-conflict areas is an important strategy for accelerating renewable energy development and protecting important natural resources, Defenders established the Central Valley Renewable Energy Project to identify methods and opportunities to incentivize the smart-from-the-start approach. The project defines renewable energy as solar thermal, solar photovoltaic (PV), wind energy and geothermal. Although limited in scope to five southern San Joaquin counties, Defenders' Central Valley Renewable Energy Project is providing insights and benefits that are applicable to the entire state.

REGIONAL SETTING



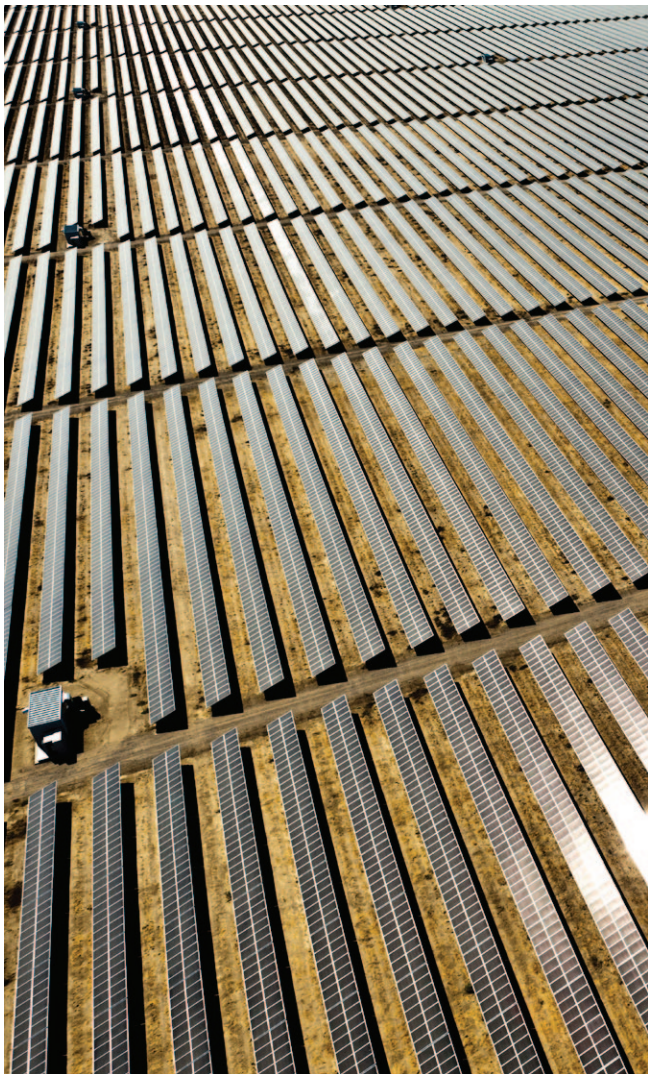
Left, the five southern San Joaquin counties, home of some of the world's best farmland—and solar sources coveted by renewable energy developers; right, impaired agricultural land—the best bet for these developers

Five counties make up the southern San Joaquin Valley—Fresno, Kern, Kings, Madera and Tulare. These counties are home to some of the richest, most productive farmland in the world and to some of our most imperiled plants, animals and habitats. In recent years, substantial residential growth has impacted these lands, and a proposed high-speed rail project through the counties is expected to further drive growth. Adding to the competition for resources is Naval Air Station Lemoore and its own demands for development restrictions and open-space to accommodate its operations.

With its temperate climate and some of the best solar resources in the world, the southern San Joaquin Valley is an area of intense interest for solar-energy developers. Forty-five solar-PV projects have been approved as of late January 2012 in the southern San Joaquin Valley. If financed and constructed, these projects would encumber 17,570 acres of farm and grazing land and generate as much as 1,648 megawatts of power. An additional 59 solar-PV projects proposed for the southern San Joaquin Valley could take up another 23,118 acres of farms and grazing lands and generate some 2,780 megawatts. At this time, no wind or geothermal projects have been permitted or proposed in the Central Valley portion of the five counties.

Westlands Water District lies on the west side of the valley and encompasses more than 600,000 acres of farmland in western Fresno and Kings counties. The district has been severely impacted by drainage problems. Irrigation water imported from the Sacramento-San Joaquin Delta contains high levels of salt. A shallow layer of Corcoran clay underlies some westside lands and prevents water from filtering deep into the ground. With no place to drain, the salty water has built up above the clay layers and reached the surface, impairing crop root-zones, reducing yields and diminishing land productivity. The Westlands' soils have naturally high levels of selenium, and the poor drainage is making matters worse.

Past years of drought, along with reduced and less reliable water deliveries from the Bureau of Reclamation's Central Valley Project, further strain agricultural use of the land in the Westlands Water District. As a result, many of the district's farmers are seeking new economic uses for their land. The majority of the solar PV projects proposed for Fresno County are in the district, including the high-profile Westlands Solar Park and the 1,890-acre Mendota Solar Project proposed by developer SunPower. In Kings County, the proposed 1,400-acre Mustang Solar Project is also in the Westlands district.



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REGULATORY FRAMEWORK

Commercial, or utility-scale, renewable energy projects are a relatively new land use for the southern San Joaquin Valley, and the five counties have varying regulatory approaches and planning policies for renewable energy development. Kern County has been planning for renewable energy development since the mid-1990s and has the longest track record for permitting renewable energy projects. Tulare County adopted criteria for permitting solar and wind projects on farmland in August 2010 and is in the process of updating its general plan. Kings County adopted its 2035 general plan in 2011, and renewable energy facilities for commercial markets are permitted in agricultural zones with a conditional Use Permit. Fresno and Madera counties have older general plans, 2000 and 1995 respectively, and their plans and development codes do not address utility-scale renewable energy development.

Each of the counties require some form of a conditional-use permit for establishment of commercial or utility-scale solar or wind projects. Fresno, Kings, Madera and Tulare counties are utilizing Initial Study/Mitigated Negative Declarations (IS/MND) for California Environmental Quality Act (CEQA) compliance on the majority of the proposed projects. Fresno and Kings Counties have recently received applications for very large scale solar PV projects and are anticipating requiring environmental impact reports (EIRs) for those projects. Kern County is requiring EIRs for commercial or utility-scale solar and wind projects countywide and is consolidating multiple projects into single EIRs to streamline the process when appropriate.

The five Southern San Joaquin counties share the issues described below that present obstacles to smart-from-the-start planning. Fortunately, the strong state and federal focus on rapidly expanding the country's renewable energy portfolio provides a political climate and additional tools for overcoming these challenges, turning issues into opportunities to implement better planning for renewable energy siting.

Top, solar-PV panels at the 45 megawatt Avenal facility in Kings County; bottom, blunt-nosed leopard lizard, a federal endangered species that occurs only in the San Joaquin Valley

ISSUES/OPPORTUNITIES

Planning capacity and tools

Renewable energy projects present new challenges for planning staff. These projects are large-scale with environmental and cultural impacts similar to large residential developments, but with new technological criteria, regulatory requirements and business models. Currently adopted general plan policies, development codes and permitting processes generally do not provide sufficient guidance to facilitate smart-from-the-start siting of renewable energy projects. Local governments typically do not have the funding to engage in drafting, adopting and implementing new planning policies for renewable energy and are particularly concerned about the potential of costly legal challenges to proposed plans and the associated environmental-review documents.

All public agencies—federal, state and local—are challenged by lack of capacity due to lack of funding. State and federal agencies and local jurisdictions are operating with less staff than needed for the workload. This results in extended processing times for projects and increases the possibility of missing important issues in the planning analysis. As a result, two southern San Joaquin Valley jurisdictions have shifted the bulk of the CEQA analysis to the applicant. Lack of funding means not only inadequate staffing levels, but also limited or no access to the information and tools needed for smart-from-the-start planning, such as up-to-date and advanced planning programs, mapping systems and office technology.

Regional coordination

Within the five southern San Joaquin counties 45 solar-PV projects covering 17,570 acres have already been approved and another 59 projects encumbering 23,118 acres are in the permitting process. This represents a substantial level of development, and the conversion of these lands to a quasi-municipal/industrial use has the potential for significant cumulative impacts to farmland, wildlife, habitat, cultural resources and the power-transmission system. These potential impacts should be considered and addressed at both the local and regional level. Currently, development of renewable energy projects is tracked by megawatts with little or no consideration of the location, acreages and environmental characteristics of the proposed projects. Planners, decision makers and the public, however, need more comprehensive information to properly assess potential impacts.

With no comprehensive regional planning for renewable energy in the southern San Joaquin Valley, the approach to siting and impact analysis is piecemeal. This results in opportunistic siting of projects based primarily on location of existing transmission rather than a comprehensive, environmental resource-based planning for smart-from-the-start renewable energy development.

Transmission and capacity planning

Transmission planning is an ongoing, constantly evolving activity in California and elsewhere. Transmission capacity is a key area of interest to land-use planners considering renewable energy activities such as developing energy elements or combining districts/overlay zones to accommodate renewable development. Land-use planners need realistic expectations for transmission capacity. A wealth of information is available from utility providers, state agencies and organizations and regional and national websites, but accessing, deciphering and reconciling it has been too cumbersome and time-consuming for local planners.

One of the key site selection criteria for renewable energy projects is distance to transmission because economically feasible access with sufficient capacity to carry the power generated by the project is a primary concern of project developers. These projects need access to transmission lines that have sufficient capacity or can be cost-effectively upgraded. Currently, transmission planning at the regional, state and national levels is largely based on requests for connection by power generators—a reactive approach that does not foster smart-from-the-start siting of either power plants or transmission facilities.

Impaired and degraded lands

Solar-energy project developers generally seek sunny, reasonably flat land, which in the southern San Joaquin Valley is most often agricultural land. Consequently, the majority of solar-PV projects in the region are on farm or grazing lands, creating a conflict between two of California's most vaunted public policies: protecting farmland and developing renewable energy. Locating renewable energy facilities on farmland designated by the California Department of Conservation's (DOC) Farmland Mapping and Monitoring Program (FMMP) as "prime," "farmland of statewide importance" or "unique farmland" also requires mitigation for loss of farmland. To avoid expensive, time-consuming conflicts and mitigation, renewable energy developers are being encouraged to seek lands with low agricultural value due to chemical impairment, lack of water or physical degradation such as those within the Westlands Water District. Although known within the agricultural community, most of these impaired or degraded lands have not been systematically mapped which is hampering energy development on these locations.

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Top, San Joaquin antelope squirrel, a valley native on California' s list of threatened species; bottom, transmission lines, part of the solar energy development footprint

Currently, the majority of the solar PV-projects proposed in the southern San Joaquin Valley are on lands contracted under the Williamson Act,[1] one of California's strongest tools for land preservation. The compatibility of solar-energy projects with Williamson Act contracts has become an issue for project proponents, local government, the DOC, the California Farm Bureau Federation and some county farm bureaus. For most, these projects are seen as incompatible with Williamson Act contracts because utility-scale energy development is not considered an agricultural use and cancellation of the contract would be required for a project to proceed. The DOC, which has Williamson Act oversight, has prepared a white paper on solar power and the act that provides an overview.[2] In brief, contracts can be cancelled under the public benefit provisions of the act—for a fee. The cancellation fees are high and an issue of particular concern to project proponents.

Wind-energy projects are more likely to be compatible with Williamson-Act-contracted lands because grazing operations and other types of agriculture can more easily continue. However, wind resources are limited in the southern San Joaquin Valley, and no wind projects have been proposed in the region to date.

To address the issue of solar-PV projects and Williamson Act contracts and to incentivize siting on impaired lands, recently enacted Senate Bill 618 (Wolk) provides a tool for the interim contract management. It allows a Williamson Act contract on such lands to be rescinded and a "solar-use easement" entered into for a term of no less than 20 years during which the land must be used for solar-PV facilities. This approach will potentially avoid the controversy of cancelling contracts and imposing expensive cancellation fees, provided the solar-use easement is not prematurely cancelled.

In some instances, the cancellation of a Williamson Act contract on low-value, impaired agricultural land to allow renewable energy development could further public policy. For example, siting renewable energy projects on severely impaired lands within the Westlands Water District that have been, or are slated to be, retired. Under such circumstances, the secretary of the California Natural Resources Agency has the latitude to waive the payment of cancellation fees.

The cancellation of Williamson Act contracts for renewable energy projects remains controversial. In October 2011, the California Farm Bureau Federation filed suit against the Fresno County Board of Supervisors over the cancellation of a contract on prime farmland to facilitate the development of a 90.5-acre, 20-megawatt solar-PV project.

As an alternative to agricultural lands, brownfields and closed sanitary landfills are potential sites for renewable energy facilities. According to the U.S. Environmental Protection Agency's (EPA) 2009 Re-Power America's Lands Project, at least 215 sites encompassing 1,707,829 acres in California would be appropriate for solar-PV projects. And 139 of them

[1] The Williamson Act was intended to provide the public benefit of assuring sufficient food supplies by protecting productive agricultural land and rangelands, discouraging discontinuous urban development patterns, and preserving open space. Over the years the Williamson Act has been strongly defended by both the agricultural and environmental communities as one of California's strongest tools for land preservation. However, California's financial troubles have imperiled the Williamson Act and its cornerstone subvention program has gone essentially unfunded the past several years. Counties with active Williamson Act programs rely on subvention funds to off-set the loss of property tax revenue from lands which are enrolled in Williamson Act contracts. The loss of subvention funding has undermined many Counties' financial planning and forced the Counties to consider termination of their participation in the Williamson Act. The loss of Williamson Act protection of agricultural lands would be a sharp blow to farmland preservation efforts in California.

[2] http://www.conservation.ca.gov/dlrp/lca/Documents/DOCSolar-WhitePaper%203%2011%2011.pdf

are larger than 100 acres. As a result of emerging technologies for anchoring and constructing projects, these potential sites are only now being considered for renewable energy development. The EPA and the National Renewable Energy Lab, for example, are collaborating on a study to assess potential solar-power generation on the 160-acre Crazy Horse sanitary landfill site in Monterey County.

Environmental review/analysis and permitting

Environmental analysis and documentation can be an expensive, time-consuming and complicated part of the entitlement process for any development project. Projects are often designed and sited to ensure CEQA compliance and to minimize the cost of mitigation.

Within the southern San Joaquin Valley, the five counties have varying approaches to CEQA compliance for renewable energy projects. Kings and Tulare counties allow the project proponents to prepare draft IS/MNDs for the county staff review and consideration. Fresno is preparing IS/MNDs in-house for the majority of solar-PV projects, but will use a consultant to prepare an EIR for the proposed 3,575-acre Tranquility Project. Kern County is requiring EIRs for renewable energy projects and Madera and the other three counties are relying on IS/MNDs for the majority of renewable energy projects in their jurisdiction. With nearly 40,689 acres of renewable energy projects either recently approved or currently proposed in the southern San Joaquin Valley, Kern County has taken the stance that the potential for significant cumulative impacts must be addressed and is requiring the preparation of EIRs for commercial or utility-scale renewable energy projects. This varied approach to CEQA compliance by the counties creates an inconsistent permitting environment for renewable energy projects in the region. This hampers the ability to establish consistent, reliable smart-from-the-start renewable energy-siting standards.

Defenders' review of solar-PV projects proposed and recently approved in the five southern San Joaquin counties revealed that local jurisdictions are not processing some of these projects in compliance with regulatory requirements. Examples of noncompliance include:

- Failure to analyze a project fully, omitting information on ancillary facilities such as transmission lines, roads and substations.
- Separate processing of related projects resulting in piecemeal CEQA review.
- Inadequate or nonexistent cumulative impact analysis.

Agricultural land near Exeter in Tulare County

- Insufficient, deferred or absent biological studies of project sites.
- Failure to adopt mitigation monitoring/reporting programs as required by California Public Resource Code 21081.6.
- Failure to require standard mitigation promulgated by the California Department of Fish and Game (DFG) and the U.S. Fish and Wildlife Service (FWS) for special status species such as the San Joaquin kit fox, burrowing owl, Swainson's hawk and blunt-nosed leopard lizard.
- Failure to circulate CEQA documents through the state clearinghouse as required by Sections 15205 and 15206 of the CEQA guidelines.
- Failure to circulate CEQA documents for at least 30 days of public review as required by Sections 15205 and 15206 of the CEQA guidelines.

Noncompliance exposes the proposed solar projects to significant risk of legal challenge. Attorneys representing the union group CURE, for example, raised substantive challenges to a proposed IS/MND for a PV project at a recent Planning Commission hearing. Solar developers have expressed frustration with the delays and expenses their projects can face as result of compliance issues.

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Discussing a solar project proposed for impaired agricultural land in Kings County: farmer Mark Shannon (right); Westside Holdings representative Bob Dowds (left)

Part of the problem is conflicting and/or unpredictable requirements and an apparent lack of coordination between wildlife agencies. The state and federal wildlife agencies appear to be working independently of each other, sometimes making conflicting comments and recommendations to local agencies. Further, there is little to no coordination between state and federal wildlife agencies for endangered-species permitting under the state and federal endangered species acts. And there appears to be no effort to coordinate mitigation.

The current approach of project-by-project mitigation in the five counties has resulted in a fragmented and inefficient process for assessing and carrying out mitigation. This approach does not make the best use of mitigation resources to provide more comprehensive, coordinated benefits for affected species and their habitat.

Finally, FWS does not appear to be using an important tool for faster and more efficient permitting under Section 10 of the Endangered Species Act: the "low-effect" habitat conservation plan (HCP). This type of HCP, which can be developed and approved in a matter of months rather than years, is designed specifically to expedite projects sited on low-value/low-impact lands.

All of the counties have expressed interest in developing programmatic plans to guide renewable energy development. This could be accomplished by including energy elements in a county's general plan, specific plans, renewable energy districts, HCPs or natural community conservation plans. These plans could incentivize siting renewable energy projects on marginally productive or physically impaired lands that have low habitat values by providing clear guidelines for acceptable project location and design. AB x1 13 (Perez) establishes a grant program for such planning activities.

Under AB x1 13 the California Energy Commission (CEC) would "…provide up to seven million dollars ($7,000,000) in grants to qualified counties for the development or revision of rules and policies, including, but not limited to, general plan elements, zoning ordinances, and a natural community conservation plan as a plan participant, that facilitate the development of eligible renewable energy resources, and their associated electric transmission facilities, and the processing of permits for eligible renewable energy resources."

The preparation and adoption of one of these documents would require compliance with CEQA and most likely the preparation of a programmatic EIR. The adoption of a programmatic EIR would potentially streamline and minimize future CEQA compliance within the area of the renewable energy plan.

While this approach would benefit project proponents, Kern County has expressed legitimate concerns about bearing the cost of any legal challenges to these types of programmatic plans and associated CEQA documents. The CEC is preparing to launch a Renewable Planning and Permitting Program (RP3) that provides grant funding and technical support to local governments, which could potentially relieve some of this concern. However, funding for the RP3 program has yet to be appropriated.

RECOMMENDATIONS

Address the lack of planning capacity and tools.

Create a state renewable energy clearinghouse to track projects.

Utility-scale renewable energy projects present new policy, planning, permitting and implementation challenges for local governments. Currently, these projects are tracked by the CEC with an emphasis on energy production. The land-use and environmental aspects such as acreage, environmental setting and potential project impacts are not uniformly tracked, undermining the comprehensive planning necessary to balance energy development and environmental protection. A state renewable energy clearinghouse would address this issue by consolidating information about renewable energy projects throughout the state and providing local governments with:

- Training and technical support for planners and decision makers.
- Model planning and permitting documents.
- Best management practices for siting.
- Recommended approaches to permitting and implementing projects.
- Standardized permitting protocols.
- Standardized impact analysis and mitigation methodology.
- Tracking of projects and related transmission upgrades by acreage, environmental setting and potential project impacts.

The Governor's Office of Planning and Research (OPR) already provides planning and CEQA guidance to local government and is a natural choice for administering a renewable energy clearinghouse. This centralized approach to providing support is also complementary to the provisions of AB x1 13 and CEC's planned RP3 program, which will provide grant funding for renewable energy planning and technical support to augment OPR's land-use-planning expertise.

The OPR renewable energy clearinghouse should track all renewable energy projects proposals being processed by local jurisdictions, the CEC, the California Public Utilities Commission (CPUC) and federal agencies. Information gathered should include project locations, acreages and environmental characteristics, including agricultural, biological, cultural and hydrological resources. This tracking of projects should also include mapping of proposed project sites and their environmental setting.

Legislation similar to that which established the CEQA Clearinghouse at OPR could be crafted to create the OPR Renewable Energy Clearinghouse, providing organizational stability over time.

Select combining/overlay zoning districts to accommodate renewable energy development in suitable areas.

The establishment of combining or overlay districts can codify those areas identified as suitable for renewable energy projects through the development of low-conflict energysheds, adoption of energy elements in general plans or other planning actions. Combining districts can provide renewable energy-specific development standards that modify the uses permitted within a zone to streamline and incentivize project siting in lower impact areas. (High-value habitat and agricultural lands should be excluded to discourage development of those lands.)

The adoption of combining or overlay districts would be subject to CEQA and require the preparation and adoption of

Rows of romaine and red leaf lettuce in Kern County

an EIR for each district. This provides additional streamlining for individual projects that could "tier" off the EIR for the district. Establishing these districts also provides a tool for monitoring cumulative impacts.

Funding local jurisdictions to undertake the development and adoption of renewable energy combining or overlay districts and the required CEQA documents could be provided through a planning grant program or through the provisions of AB x1 13 (Perez).

Standardize site-selection criteria and development requirements.

Clearly defined site-selection criteria and development standards provide certainty and can be used to incentivize smart-from-the-start renewable energy development by directing projects to lands that have been developed, disturbed or chemically impaired; have low agricultural productive capacity or low value for wildlife; or could be developed with minimal impacts on cultural or archaeological resources. A renewable energy project's design and operation should also use technology appropriate for the site such as low-water requirements in desert locations. In addition, projects should be located near existing or planned transmission facilities with sufficient capacity to minimize the need for additional transmission lines.

Development standards and criteria for smart-from-the-start siting should be included in regulatory codes adopted by local jurisdictions for renewable energy projects. A tiered permitting approach that provides for streamlined, legally minimal permitting for well-sited, low-impact projects and requires more intensive review and permitting for projects with greater potential impacts should be implemented. For example, a low-impact project could be approved at the zoning administrator level with a minor conditional-use permit and a simple initial study/mitigated negative declaration. Whereas a poorly sited or designed project that would impact high-value resources would require a major conditional-use permit with an EIR and planning commission hearing. This would provide an incentive to both renewable energy project developers and financiers to focus on smart-from-the-start project sites.

Develop model approaches to assist local jurisdictions in siting and permitting renewable energy projects.

Development and implementation of model approaches to renewable energy siting and permitting can help build a local jurisdiction's capacity for reviewing and permitting rprojects sustainably and cost-effectively, resulting in high-quality, smart-from-the-start outcomes. OPR is well positioned to take a leadership role in providing this type of land-use planning guidance to local government with the technical support of CEC, DOC's Division of Land Resource Protection, DFG and FWS. Access to model documents—general plan energy elements, zoning ordinances to govern the various types of renewable energy projects, and standardized baseline conditions of approval for these projects—would help jurisdictions to develop their own local requirements effectively and efficiently without having to "reinvent the wheel." These model documents would convey the current best practices for renewable energy siting and permitting and be updated as needed to address advancing technologies and real-world experiences.

The California County Planning Director's Association's Solar Energy Facility Permit Streamlining Guide and accompanying ordinance, combining-zone language and other model documents adopted by the association in February 2012 will meet some of these needs.[3] (The model ordinance only addresses solar-PV projects of fewer than 20 acres, but the guide covers larger projects.) Resources from other states, such as Oregon's Model Ordinance for Energy Projects, should be utilized in the development of additional documents. [4]

Provide regional coordination.

Identify energysheds–areas in the region that are most appropriate for smart-from-the start renewable energy development.

Each of the local governments within the southern San Joaquin Valley is processing and permitting renewable energy projects independently. This lack of interjurisdictional coordination results in varying, compartmentalized approaches to CEQA, project review, conditional-use permits and regulatory requirements, and does not provide cohesive, smart-from-the-start siting guidance. Comprehensive regional planning should begin with the mapping of energy resources, biological and cultural resources, agricultural lands and land uses in the region to identify "energysheds"—areas where renewable energy development would have minimal impact on resources and uses.

Some energysheds are likely to be multi-jurisdictional, providing a resource-based geographic foundation for interagency coordination, programmatic planning and streamlined permitting.

This type of regional planning is urgently needed and should be implemented as soon as practicable. As an established technical resource for planning, OPR would be an appropriate agency to take the lead and coordinate energyshed-based planning.

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[3] http://www.ccpda.org/en/model-sef-ordinance/145-ccpda-solar-energy-facility-permit-guidelines-approved-2012-02-03

[4] http://www.oregon.gov/ENERGY/SITING/local.shtml

Building on the identification of energysheds, local planning jurisdictions, particularly the counties, should either develop and adopt energy elements in their general plans or update the existing energy elements. These elements should provide goals, policies and implementation strategies to foster smart-from-the-start renewable energy siting. Local government typically has limited funding to undertake comprehensive planning projects such as voluntary general plan elements, but AB x1 13 (Perez) established a grant program for planning activities that could be channeled through CEC's planned RP3 program.

Improve transmission planning and capacity.

Establish a coordinated and policy-driven approach to transmission and siting planning that fosters smart-from-the start project development.

Currently, transmission planning at the regional, state and national levels is largely based on requests for connection by power generators. This reactive approach results in duplicative planning processes and infrastructure. To improve power plant siting and transmission planning, coordination among the various transmission Balancing Authorities in the southern San Joaquin Valley should be established and maintained. Moving forward, siting and transmission planning should be driven by policy to better incorporate environmental considerations. Rather than siting facilities based on where transmission is or will be located, transmission should be planned and sited within designated energysheds with the highest potential for smart-from-the-start renewable energy development are locted. Ensuring the availability of transmission within these energysheds would further incentivize renewable energy development.

The California Independent System Operator (ISO) should consider and prioritize needed transmission and capacity upgrades within the southern San Joaquin Valley, such as the Midway-Gregg line, which would facilitate development of Westlands Solar Park and other large-scale, smart-from-the-start projects.

Create a centralized transmission capacity and planning reporting portal.

Land-use planners and local governments need a centralized transmission capacity and planning reporting portal to facilitate planning for renewable energy development that integrates into the overall transmission system more efficiently. The portal would also provide a local governments with a venue for providing early warnings about sensitive resources to transmission planners. The ISO is a potential host for the portal. The ISO also has an ongoing transmission-planning training program that could be expanded, in partnership with the CEC and California Public Utilities Commission, with a module for land-use planners.

Focus on impaired and degraded lands.

Site renewable energy projects on brownfields, Superfund sites and other degraded lands.

Degraded lands are another potential location for siting renewable energy without impacting high-value farmland and habitats. These lands include brownfields, closed and capped landfills, Superfund sites, Resource Recovery and Conservation Act (RCRA) lands, and abandoned or closed mining areas. Farmland is not considered degraded land unless there are other extenuating issues such as chemical impairment. According to the EPA's 2009 Re-Power America's Lands map for California,5 22 such sites within the valley area of the five southern San Joaquin Valley counties are suitable for solar PV development. These sites are often flat, located near transmission and do not support environmentally sensitive resources. Emerging design technologies are opening opportunities to site renewable energy projects on such sites. The potential for the reuse of degraded lands for this kind of development should be addressed in local jurisdictions' energy-planning efforts and streamlined land-use permitting should be implemented to incentivize it.

Clear, regionally-appropriate criteria are needed to identify those lands that can host renewable energy development without impacting high-value agricultural lands and wildlife habitats. Many perceive agricultural lands as appropriate places to site renewable energy projects because of the disturbed nature and potentially lower biotic values of these lands. However, farm and rangelands provide important public benefits that must be balanced and protected. The criteria for identifying lands suitable for renewable energy development should be structured to pinpoint locations of limited habitat and agricultural value or otherwise impaired by chemical degradation or regulatory action such as the loss of irrigation water. The criteria must also guard against the strategic or artificial degradation or fallowing of land to make it available for development.

[5] http://www.epa.gov/renewableenergyland/maps/pdfs/pv_utility_ca.pdf

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Swainson's hawk, a state-listed threatened species in California

Quantifiable analysis such as that provided by Land Evaluation and Site Assessment (LESA) models can help planners and decision makers understand the agricultural production capacity of a particular project site, transmission alignment or renewable energy combining district/overlay zone. For areas with unique constraints, such as the Westlands Water District, the development of an area-specific LESA model should be considered to further refine the analysis.

Williamson Act contracts and cancellation fees are sometimes cited as limiting factors for siting renewable energy development on otherwise appropriate agricultural lands. In an effort to address this issue, the recently enacted Senate Bill 618 (Wolk) provides a solar-PV-specific tool for the interim management of Williamson Act contracts. It allows contracts on marginally productive, physically impaired or disturbed lands to be rescinded and replaced by a "solar-use easement" requiring the land to be used for solar-PV facilities for at least 20 years. This approach allows landowners to terminate Williamson Act contracts on their degraded farmlands without incurring high cancellation fees.

Improve environmental review/ analysis and permitting.

Address procedural review and permitting errors.

Substantive environmental review and permitting errors have been noted on some of the solar-PV projects proposed in the southern San Joaquin Valley. These errors could jeopardize otherwise viable projects and undermine the state's renewable energy goals and the region's desire for economic development. Additional planning and CEQA process education outreach and support is needed to assist local governments with CEQA compliance and defensible permitting practices. This is another area in which the OPR in its capacity as a renewable energy clearinghouse could provide the needed training and resources. In some instances, additional oversight by the California attorney general's office may also be beneficial.

Consistent and defensible approaches to impact analysis and mitigation are also needed. For projects located on farmland, grazing land or open space, baseline information on the proposed project site's biological resources and agricultural productive capacity must be required for any land-use entitlement application to be "deemed complete." At a minimum, threshold biological studies and site-specific soil resource reports such as those available from the Natural Resource Conservation Service's website should be a standard requirement.

Finally, for renewable energy and related transmission projects proposed in areas without a renewable energy general plan element or combining district/overlay zone, cumulative impacts must be consistently considered and addressed.

Provide a more defined and coordinated approach to permitting and mitigation for wildlife and habitat impacts.

Utility-scale renewable energy projects can be unnecessarily complicated by the failure to use existing planning tools and lack of a more defined, coordinated approach to permitting and mitigation.

To address these problems, state and federal wildlife agencies should coordinate their comments on a project's impacts and work together on endangered species permitting under the state and federal endangered species acts. Further, FWS could speed up the federal endangered species permitting process by providing guidance to renewable energy companies on when to use the "low-effect" habitat conservation plans.

For example, projects on impaired and degraded lands that will have minimal impacts on resources easily fit into a "low-effect" category for which a permit can be issued in months rather than years. In some situations, the impacts may be so minimal that no endangered species permit is even required.

In addition, the FWS, DFG and local agencies should develop a strategic, regional mitigation process founded on habitat conservation planning principles. This coordinated process should be informed by all the endangered species recovery plans and other long-term land and wildlife conservation plans for the region. Such an approach, which will result in more robust and effective mitigation than can be achieved on a project-by-project basis, should include:

- Biodiversity sustainability/viability indicators.
- Designation of regions based on biological integrity and ecosystem functions.
- Designation of target mitigation acquisition lands and public land actions within each region to maximize habitat conservation, species survival and recovery and maintain and protect migration/movement corridors.
- Allocation of pooled mitigation funds and activities for larger-scale land acquisitions of designated property and mitigation measures.
- Provisions and funding for long-term stewardship of mitigation lands.
- Mechanisms to ensure mitigation investments are science-based and enduring.

Mitigation measures should be formulated as a comprehensive package under which jurisdictional agencies coordinate their requirements and review. Other state, federal and local resource agencies and nongovernmental organizations with relevant expertise and information should also be consulted as much as possible. To increase and coordinated benefits to impacted species, habitat and corridors The comprehensive mitigation package for any individual project should complement measures taken for other projects. Federal and state agencies should also consult with local land agencies, land trusts and other experts.

Compensatory mitigation must be implemented reliably, effectively and cost efficiently. Land trusts and local and regional conservation organizations that focus on the acquisition, establishment, management and holding of conservation lands are important resources for implementing mitigation. They should be consulted early in a renewable energy project's planning and permitting phase. Compensatory mitigation should, where practicable, expand and enhance existing conservation lands.

CONCLUSION

The rapid advancement of renewable energy development, related policy initiatives in proposed legislation, and local land-use measures for protecting prime farmland and valuable habitat provides many opportunities and raises many issues.

This report identifes those issues and turns them into opportunities in a series of recommendations that lay out an approach to renewable energy project siting and permitting that is smart-from-the-start. By following them we can protect sensitive wildlife and valuable agricultural resources while meeting California's renewable energy goals and promoting economic development in the Central Valley.

Vineyard at sunrise, Kern County

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