



Integrated Energy Policy Report Workshop Integrating Environmental Information in Renewable Energy Planning Processes

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Environmental Scoring Methodology for Renewable Energy Projects

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Environmental Scoring of Proposed Generation Projects

- A brief history of Environmental Scoring
- Scoring Methodology
- Suggestions for possible directions on what kind of environmental information could be the most useful in energy planning processes



Environmental Scoring of Projects

- Scored all renewable projects in REAT database and additional projects identified by CPUC
- Expert CEQA review of project mapping work including 48 GIS layers representing different environmental and land use information databases
- Focus was on in-state and DRECP proposed development focus areas
- Simplified treatment of out-of-state projects
- Scoring applied to 2012 and 2013 CPUC and CAISO proceedings, last updated in October 2013



Renewable Energy Action Team (REAT) Renewable Project Database

- Tracks renewable projects in development in California
- Energy Commission is responsible for managing the database
- REAT agencies identify projects under review
- Energy Commission contacts counties and cities, and accesses public databases (RPS, CEQA.net, internet, etc.)
- Renewable Energy Tracking Progress website is updated semi-annually, noting status of renewable energy development
- Last update published March 27, 2014
 - listing 525 proposed projects (1MW and larger) totaling 40,750 MW
 - 180 projects with permits in development totaling 11,300 MW
- Next update to be published in August 2014



APPLIED GIS LAYERS

- **US Bureau of Land Management, Forest Service and National Parks Service**

- Areas of Critical Environmental Concern
- Desert Wildlife Management Areas
- National Parks
- National Monuments – Existing and Proposed
- National Preserves
- National Wildlife Refuges
- Designated Wilderness Areas
- National Recreation Areas
- National Conservation Areas
- Wilderness Study Areas to include Proposed Wilderness Lands and Wilderness Inventory Lands.
- National Historic & Scenic Trails
- National Wild, Scenic and Recreational Rivers
- Inventoried Roadless Areas

- **US Fish & Wildlife Service**

- Designated Critical Habitat for Federally Listed Endangered and Threatened Species
- National Wetlands Inventory

- **US Environmental Protection Agency**

- Superfund Sites
- Renewable Energy on Contaminated Lands
- Landfill Methane Outreach Program Database

- **US Dept of Agriculture (USDA) – National Resource Conservation Service (NRCS)**

- Salt-Affected Soils
- Websoil Survey

- **US Department of Defense**

- Military Bases in California.
- Closed Former Military Bases in California, 1940 to Present.
- Reuse Authority Maps for Former Military Bases in California.
- Catellus Lands adjoining Ft. Irwin.
- US Army Corps of Engineers (USACE) South Pacific Division Wetlands

- **CA Dept of Parks and Recreation (CDPR)**

- State Parks
- State Wilderness Areas
- State OHV Areas
- State Beaches
- State Historic Parks



APPLIED GIS LAYERS

- **California Department of Conservation**
 - Important Farmland 2010 Statewide
 - Important Farmland 2010 by County
 - Williamson Act Lands
- **California State Lands Commission (CLSC)**
 - State-Owned Lands
 - State-Owned Mineral Rights-Only Lands
 - State Fee School Lands held in Trust.
 - State Fee School Lands held in Trust in the California Desert Conservation Area, Outside and Inside of Parks & Wildlife Areas
- **California Department of Fish & Wildlife**
 - Wildlife Areas
 - Ecological Reserves
 - California Endangered Species Act Designated Critical Habitat for Federally and State Listed Endangered and Threatened Species
 - Map of CDFW Lands
 - California Central Valley Wetlands, Vernal Pools and Riparian Habitat GIS Datasets
 - The California Desert Vegetation Classification and Mapping Program in support of DRECP.
- **California Natural Resources Agency**
 - California Wetlands Information System
 - California Digital Conservation Atlas
- **California Department of Transportation**
 - California Scenic Highway Mapping System
 - Scenic Routes by County
- **The Wildlife Conservancy**
 - Catellus Lands
- **Natural Resources Defense Council & Audubon Society**
 - Clean Energy in the Western US, 5/27/2009, Compilation of existing maps.
- **The Sierra Club**
 - Wildlife Corridors In and Near San Bernardino Mountains



Environmental Scoring Methodology

- A score was assigned based on the location of a project using one of five categories (see next slide).
- Scores were based on positive preferences for projects in Development Focus Areas or on disturbed lands.
- Negative (high/worse) scores were given for projects outside a DFA, but within the DRECP boundary.
- Neutral scores (50) were assigned to projects on non-desert, non-disturbed lands outside of the DRECP.
- Rooftop mounted DG projects were assigned best (lowest) scores regardless of location relative to the DRECP and DFAs.



Environmental Scoring Matrix

Category	DG?	Project Location			Score 0=best 100=worst	Location Examples
		In DRECP?	Disturbed Lands?	In a DFA?		
1	N	Y	N/A	Y	25	All ground-mounted projects in a DFA and not described by any other categories or located on active military bases.
2	N	Y	N/A	N	80	All ground-mounted projects outside of a DFA located within the DRECP boundary and not described by any other categories.
3	N	N	N	N/A	50	All projects outside the DRECP; all projects on productive agricultural lands including ground-mounted PV outside the DRECP; any project that could not be scored individually; all non-California projects.
4	N	Y	Y	N/A	20	Ground-mounted PV or other RE on abandoned agricultural lands; closed facilities (e.g., abandoned military bases, closed or active mines); degraded/disturbed lands.
5	Y	Y	Y	N/A	0	Roof-top solar PV, Solar PV projects located as shade structures in parking lots, ground-mounted PV at waste water treatment plants, on remote brownfields, remote DG on brownfields, landfills, remediated sites, at existing substations/electric facilities, Superfund sites, quarries, and industrial plants. This list of sites pertains to all types of renewable energy technologies. Projects in DFAs on degraded/disturbed soils.



Advancing Environmental Scoring Methodology – Next Steps

- Application of regional environmental databases to evaluate out-of-state projects serving CA
- Modify environmental scoring criteria to better reflect preferred geographic locations and risks for possible permit failures
- Implement state of the art GIS analytical techniques to transparently integrate data across many layers:
 - Mapping tool to include generation and transmission projects
 - Evaluate landscape level implications of proposed projects
 - Help developers identify locations with low environmental risks
- Increase transparency and facilitate broader collaborative effort among agencies