



**COMMENTS OF NRDC
BEFORE THE CALIFORNIA ENERGY COMMISSION
MAY 10, 2012
Identifying and Prioritizing Geographic Areas
for Renewable Development in California**

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NRDC is a national, non-profit organization of scientists, lawyers, and environmental specialists, dedicated to protecting public health and the environment. Founded in 1970, NRDC serves more than one million members, supporters and environmental activists with offices in New York, Washington, Los Angeles, San Francisco, Chicago and Beijing. NRDC has a long history of efforts to protect and conserve the nation's natural resources, including in particular the nation's air, water, lands and resources. NRDC has a distinguished record of advocacy promoting the increased use of energy efficiency and renewable energy sources to meet America's energy needs both at the national level and in various states, including California.

To inform this workshop we were asked to respond to several questions.

1. Preferred characteristics of priority areas have been identified in various forums and can be generally categorized into three distinct categories: 1) preferred sites for interconnection, 2) preferred sites for permitting, and 3) preferred sites for economic development. From your perspective, what are the specific preferred site characteristics for the three categories and which are the highest priority? Are the three categories mutually exclusive?

a. Characteristics:

NRDC strongly supports identification of low-conflict areas for priority development of renewable resources and facilitate priority transmission projects. Along with a number of partner environmental organizations, we developed a list of criteria to define high and lower risk areas for development on public land (attached) in the desert. Most of these apply on non-desert lands as well


We worked to support the RETI process to that end have been closely engaged with Bureau of Land Management to get out a meaningful, zone-based Federal Programmatic Environmental Impact Statement for Solar development on public land in the desert southwest. We are working within the DRECP process to the same end.

We are also encouraged by the Governor's interest in increasing distributed renewable generation since smaller projects are often easier to sight with low environmental conflict and can connect closer to load centers. Transmission improvements for large scale projects in appropriate zones also benefit distributed wholesale projects as well..

In our comments today- we focus on what we see as an under-valued opportunity for low-conflict renewable development, permitting, interconnection and also would provide significant economic development opportunity: namely, drainage and physically impaired or chemically altered former agricultural lands in the Central Valley.

- i. Lands that are drainage and psychically impaired, or chemically altered. *More than 90,000 acres of land in the Central Valley's Westlands Water District are planned to be retired and potentially converted to other uses due to legal settlements, chemical contamination and the reduced availability of irrigation water. As many as 200,000 acres could eventually wind up being retired. The state Department of Conservation and the National Resource Conservation Service have both indicated that potential may exist for beneficial retirements on many more acres (see attached map). Such lands have few environmental conflicts and projects located on them would be subject to accelerated permitting without cutting corners on statutorily required environmental review.*
- ii. Lands that fit the above description and/or are close to existing transmission infrastructure (including energy storage) and roads, and which, depending on the project's scale can interconnect to either the distribution or bulk electricity grids. *This helps the state meet both distributed and large scale renewable energy goals. In particular, portions of existing infrastructure that have a high value for renewable integration and system balancing, such as the helms Pumped Storage facility, may be more efficiently used, reducing consumer costs*
- iii. Lands with excellent resource quality for photovoltaic power production, which opens a greater area beyond just desert sites. *This serves three purposes: it reduces integration costs for renewable energy due to enhanced geographic diversity of solar and wind resources from other parts of the state; it enhances the reliable performance of renewables on the grid by enabling grid operators to match generation profiles between renewable energy types such as wind and solar, reducing reserve needs and balancing services; and it targets transmission upgrades to locations that increase reliability, avoid future congestion and facilitates regional energy markets. Focusing on such lands, principally in the Central Valley, will increase the priority of transmission development in this key area of the state and enhance other state and local policy and economic goals and needs such as expanding business and employment opportunities.*
- iv. Lands for which, if transmission was made available, considerable commercial interest exists or would exist. *Developers representing between three and six GW of energy capacity have expressed interest in building projects in the Central Valley. This is approximately an order of magnitude above the existing transmission system's available transfer capacity. New transmission is clearly needed to facilitate this development. But under present planning efforts led by the CPUC and CAISO does not prioritize Central Valley transmission. The reason? Ostensibly it is lack of commercial interest. Investors interested in prime development areas meeting the above criteria may not be willing to develop projects where transmission is not at least planned and for which they may not be*

able to get power purchase agreements. So we have a classic chicken and egg situation. State policy guiding transmission to areas that meet multiple state goals can break this cycle.

- v. *Lands for which, if development would be facilitated could reduce unemployment and increase economic activity in multiple sectors. Large scale generation projects located near pools of displaced workers have great potential economic benefits. Not only can they create many jobs in construction phases and more moderate numbers of jobs during O&M, they also have the potential to expand employment in support sectors and to attract new employment in equipment assembly and manufacturing. Unemployment in many Valley counties far exceeds state and national averages. According to the State Employment Development Department, unemployment in Stanislaus (17.4%) and San Joaquin Counties (16.7%) for March 2012 both hovered near 17%.*
 - b. *Are the three preferred site priorities mutually exclusive? NRDC believes the priorities not only are not mutually exclusive, in fact they are mutually supportive and can be planned for. Energy, environmental, transmission, economic development and human service priorities are never considered as a bundle. Understandably highly technical analyses for generation and transmission do not include other considerations. Moreover the grid is controlled by five different entities in the state, further limiting the consideration of broader system benefits. By prioritizing development into resource zones with few environmental impacts, closer to load in and in areas where transmission upgrades serve greater overall system benefits, we can accelerate the development of projects by reducing permit challenges, and accommodate other state policy goals and environmental needs related to agricultural land retirements. We can rationalize the transmission needed to serve those zones and plan for better system operation and performance. In other regions of the country such as the Midwest Independent System Operator's service territory an approach to identify transmission providing multiple benefits has been instituted. This process, identifying so-called multi-value projects (MVPs) has found robust benefits exist from these projects, extending across their entire 11 state region¹*
2. What data sets, information, and resources currently exist that could be useful in identifying geographic areas with preferred site characteristics? What additional data sets, information, and resources will be needed? *"A Preliminary Assessment of Salt Impaired Lands in California," NRCS. California Department of Conservation agricultural land mapping datasets; CEC RETI mapping layers; "Map of Principal Transmission Lines," Western Electricity Coordinating Council; CAISO Central Valley Study; Resource Quality mapping, NREL; Western Wind and Solar Integration Study, NREL; [How Do High Levels of Wind and Solar Impact the Grid? The Western Wind and Solar Integration Study](#) ." (December 2010). Lew, D.; Piwko, D.; Miller, N.; Jordan, G.; Clark, K.; Freeman, L.; "Survey of Variable Generation Forecasting in the West," K. Porter and J. Rogers, Exeter and Associates, NREL 2012; "Maximizing and Optimizing Renewable Power", Northrop-Grumman MORE Power, Presentation to Wyoming Infrastructure Authority, May, 2011, Dr. Randall J. Alliss; USEPA/NREL, "Repowering America's Land", dataset and mapping of brownfield sites with renewable energy development potential in all 50 states; "Beyond Capacity Markets –*

¹ *Multi Value Project Portfolio, Results and Analysis, MISO, January 2012*

Delivering Capability Resources to Europe's Decarbonised Power System, M. Gottstein and A. Skillings, Regulatory Assistance Project, 2012; "Grid Evolution: How Electric System Operation Can Welcome New Resources, Improve Reliability and Reduce Costs," David Olsen and Ronald Lehr, Western Grid Group, 2012

3. Transparent, publicly available data are needed for state and local governments, utilities, and other stakeholders to make informed, integrated energy planning decisions about priority areas. What are the barriers to making needed data sets more transparent and publicly available? *As NRDC has previously testified, transmission planning is a balkanized process involving several different sets of players. Information about the entire system and its operation and function is not aggregated in a single place. IOUs and POU's and not regulated in the same processes and have their own planning exercises. Information on the ability to share and mutually support transmission infrastructure is not coordinated well. Information on disturbed lands suitable for renewable energy development in the state is not complete and mapping is not prioritized. Outside of the desert no information or policy exists for the identification, development of and transmission to new renewable energy zones on retiring agricultural lands. No adequate overall assessment of the benefit of in-state geographical diversity or grid optimization has yet been done, across the entire system, publicly and privately owned. At the county level, few counties have general plan energy elements indicating development areas or zones they prioritize for renewable energy development.*
4. How can more transparent publicly available data be used in the future to better inform an integrated energy planning process? *Data on environmental and habitat sensitivity, land use trends, unemployment rates, grid performance and optimization, and water use and conservation legal settlements and trends should be centrally aggregated and reviewed to match state goals across policy areas to identify broad sets of benefits around which to prioritize renewable energy development areas and related infrastructure investment such as transmission. These benefits include but are not limited to: lowering consumer electricity costs, meeting carbon reduction and climate adaptation goals, improving air quality, reducing reserves needed for grid stability and ancillary services, job creation in economically challenged parts of the state, and relieving development pressures on more sensitive areas. Finally, information about how infrastructure upgrades that benefit new development zones can simultaneously assist with distributed generation penetration at the wholesale distributed scale should also be accumulated, made available and incorporated into planning and development area identification.*

We thank the Commission for the opportunity to comment on this subject and strongly support siting renewable energy development on and related transmission on the most suitable sites we can to meet California's multiple climate policy, environmental and economic development goals.