Comments of the Natural Resources Defense Council (NRDC)
on the 2011 IEPR: *Committee Workshop on Renewable, Localized Generation*

Docket Number 11-IEP-1G, Renewables
May 23, 2011
Submitted by: Drew Bennett, Noah Long, Carl Zichella
dbennett@nrdc.org

Introduction and Summary

The Natural Resources Defense Council (NRDC) appreciates the opportunity to comment on the California Energy Commission's (CEC) proceeding on renewable, localized generation, a part of the 2011 Integrated Energy Policy Report (IEPR). NRDC is a non-profit membership organization with a long-standing interest in minimizing the societal costs of the reliable energy services that Californians demand. We represent our more than 124,000 California members' interest in receiving affordable energy services and reducing the environmental impact of California's energy consumption.

Distributed generation (DG) can vary significantly in size, cost, ease of implementation, and benefits delivered. DG is not inherently superior to utility-scale renewable generation, but when applied correctly, it can offer significant additional, locational benefits in the form of reduced congestion, deferred transmission and distribution, load balancing, potentially reducing environmental impacts of land use, and producing renewable energy jobs in and around urban areas that need them. California DG policy should be focused on deploying DG in a way that maximizes the delivery of these benefits. Our comments are summarized below:

I. Many factors will affect the benefits of DG and the environmental impact of DG development. "Informed Siting" criteria should be established, identifying the locations where DG will provide both the most benefits and the least environmental impact. This will minimize integration and development costs, maximize the benefits achieved, and allow for focused, planned efforts for grid upgrades. Use of these criteria should also minimize controversy and facilitate permitting of DG projects.

II. Statewide and regional targets for DG procurement and integration should be based on the planning estimates of DG that meet the above criteria. The CEC should set near- and long-term goals that will reasonably attain maximum benefits while balancing the limited resources available to procure reliable, sustainable energy.

III. New mandates and incentives must complement existing DG and Renewables policies if the state is to significantly ramp up DG procurement and integration, and

should avoid creating a perverse incentive to achieve one goal at the expense of another.

IV. Statewide policy should focus on technical and policy barriers to interconnection and integration, not just on procurement targets.

Discussion

I. Many factors will affect the benefits of DG and the environmental impact of DG development. "Informed Siting" criteria should be established, identifying the locations where DG will provide both the most benefits and the least environmental impact. This will minimize integration and development costs, maximize the benefits achieved, and allow for focused, planned efforts for grid upgrades. Use of these criteria should also minimize controversy and facilitate permitting of DG projects.

Siting criteria for smaller (<20 MW) projects should be the same as for utility-scale projects. The Appendix contains a joint 2009 letter and memo from environmental groups, including NRDC, outlining our recommendations for appropriate siting criteria. Given our specified criteria, finding suitable locations for DG projects should be easier than for large-scale utility generation projects.

Aside from environmental impact considerations, there are additional factors to consider when planning and deploying DG. DG has the potential to deliver many benefits to the electricity system superior to utility-scale generation: reducing local congestion, deferring transmission and distribution costs in sectors where capacity is close to full, and balancing load with other renewables in the system. However, these benefits will not automatically be realized without careful consideration of the location of development, and thus the Commission must create policies that encourage the implementation of DG where these benefits will be best realized. The first step in this process should be to identify locations that meet environmental and electrical system screens intended to maximize these benefits.

II. Statewide and regional targets for DG procurement and integration should be based on the planning estimates of DG that meet the above criteria. The CEC should set near- and long-term goals that will reasonably attain maximum benefits while balancing the limited resources available to procure reliable, sustainable energy.

Before setting statewide or regional targets for DG procurement, the CEC should consider a statewide mapping of potential for DG. This would allow for better analysis of system

costs and benefits of integration and environmental screening. Some of this work has already been done for the PUC's analysis of DG policy and efforts to ease integration as well as in other statewide planning efforts for renewable energy. Statewide and regional targets should be based on an expansion of these processes to consider all statewide DG opportunities from an environmental and energy-system perspective.

Unless based on reasonable analysis, DG will not necessarily provide significant benefits over utility scale renewable energy, and may come at a higher cost. Any statewide goal for DG capacity that does not consider environmental criteria and system integration benefits could create perverse incentives and lead to the procurement of unnecessarily high-cost renewable energy. On the other hand, if these variables are considered and the development of DG is appropriately aimed at locations that provide meaningful environmental and system benefits, DG can and should make up a large and growing percentage of the state's long term environmental goals.

III. New mandates and incentives must complement existing DG and Renewables policies if the state is to significantly ramp up DG procurement and integration, and should avoid creating a perverse incentive to achieve one goal at the expense of another.

If there is to be a significant expansion in procurement and integration of DG, new mandates, incentives and state-led cooperation will be necessary. California already has a number of strong policies that support DG as well as other carbon-reducing goals. The new DG policy should complement and be based on the lessons learned from these policies.

Most importantly, California has just finalized its nation-leadinng 33% renewables mandate by 2020. A statewide DG goal should seek to compliment the RPS by minimizing costs and environmental impacts of renewable procurement. The 2020 mandate of 33% is not a stopping point by any means, but we should not assume achieving it will be automatic. DG policy should be aimed at supporting meeting the RPS by achieving additional benefits discussed in Section I.

IV. Statewide policy should focus on technical and policy barriers to interconnection and integration, not just on procurement targets.

Procurement targets are only useful if they bring about actual integration of renewable resources. To that end, the state should focus on developing best practices, addressing perceived and actual technological barriers and ensuring prioritized grid investments to maximize long term integration of distributed and regional renewable resources. For

example, distributed energy storage, improved forecasting and strategic investments in grid upgrades have the potential to greatly aid integration, and could be part of the broader solution to achieve interconnection and procurement targets efficiently.

Conclusion

NRDC appreciates the opportunity to submit comments on this topic, and thanks the CEC staff and commissioners for their consideration.

Respectfully Submitted,

Drew Bennett
Natural Resources Defense Council

Appendix A

Audubon California * California Wilderness Coalition
Center for Biological Diversity * Defenders of Wildlife * Desert Protective Council
Mojave Desert Land Trust * Natural Resources Defense Council * Sierra Club
The Nature Conservancy * The Wilderness Society * The Wildlands Conservancy

June 29, 2009

The Honorable Ken Salazar
1849 C Street, NW
Washington, DC 20240

The Honorable Arnold Schwarzenegger
State Capitol
Sacramento, CA 95814

Re: Recommendations for Renewable Energy Development and Resource Conservation in the California Desert

Gentlemen:

We write on behalf of our tens of thousands of California members regarding an issue of critical importance: achieving the state's ambitious renewable energy goals while protecting its unique and sensitive resources including, in particular, the California Desert Conservation Area (CDCA). Our groups recognize that both the state and the federal government share this over-arching objective and have made progress toward achieving it. State agencies, for example, are moving ahead in compliance with Governor Schwarzenegger's Executive Order to develop a conservation strategy for the desert, and the Bureau of Land Management (BLM), an Interior Department agency, is moving ahead in an effort to fast-track a subset of solar applications that have been filed in the desert as well as with a programmatic review of potential solar zones. Our groups too have been engaged in efforts to achieve this objective.

In particular, our groups have developed a set of criteria for use in identifying appropriate areas for solar development in the CDCA as well as a vision for both the kind of planning and the kind of plan needed to protect the desert's remarkable resources while addressing the climate challenge effectively. Fundamentally, success in selecting appropriate areas and achieving the over-arching objective which we all share will require an unprecedented degree of state and federal cooperation as well as close collaboration with our community. Given what is at stake, such cooperation is unquestionably warranted and it is our hope that this letter will contribute to that result.

I. Introduction

The California Desert is a unique and special environment, as recognized by Federal Land Policy Management Act in establishing the California Desert Conservation Area. The vast landscape is home to diverse biological communities, cultural sites, scenic and wild places, and other valuable areas which survive despite pressures from various human activities over the past century. The desert lands also potentially sequester carbon in the fragile desert crust, a benefit in the state's effort to reduce carbon emissions. These lands also are attractive for renewable energy projects, and have fueled a rush by companies to file applications on public lands for potential projects. The need to find alternatives to carbon based energy is great. In California, we are moving forward to meet a Renewable Portfolio Standard of 33% by 2020, a goal which is widely

supported as necessary to address climate change. Our groups strongly endorse increased conservation, energy efficiency and demand-side management actions of the sort that California has pioneered, but we recognize that, despite those efforts, it is likely that some utility scale projects will be sited in the desert, potentially as early as December 2010. It is of critical importance that they be sited appropriately. To that end, our groups have developed a set of criteria which are attached to this letter.

II. Environmentalists' Siting Criteria

Our criteria are designed to help guide renewable development, principally solar development, to appropriate locations. More specifically, the criteria are intended to inform current and future planning processes and to provide ecosystem level protection to the CDCA (including public, private and military lands) by giving preference for development to disturbed lands, steering development away from lands with high environmental values, and protecting the desert's undeveloped cores. Developed with input from field scientists, land managers and conservation professionals, the criteria in essence seek to steer renewable energy projects to areas with comparatively low potential for conflict and controversy in order to facilitate their timely development. In other words, the "message" our criteria are intended to deliver is that to expedite development, avoid areas that will generate significant controversy. In the section below, we describe how our criteria could be used in the two federal processes that are now underway as well as in the comprehensive desert-wide planning that we believe is necessary.

III. Current Federal Planning Efforts

The federal government is currently engaged in two planning efforts – one that focuses on a number of projects that might potentially be approved by December 2010 (the "fast-track projects") and the other on identifying "energy zones" in the California Desert as areas appropriate for solar development. The areas under consideration are known as "solar energy zones" or SEZ. Both of these efforts are moving forward more or less simultaneously and both to date involve only federal lands. We will be employing the criteria set out above in both of these planning efforts, and we urge that you both do as well. As helpful as the criteria will be, however, they are not the complete solution.

What is needed in the long run is a comprehensive and strategic landscape level plan for the Desert – one that addresses the siting of all types of renewable energy development, that is coordinated with state and local agencies across the region, and that addresses private and public lands. The planning processes underway by the federal government at this time are not comprehensive and will not produce the kind of plan that is needed. They will nonetheless provide the opportunity for both the state and the federal government to begin working together in a coordinated and effective way and, we hope, will set the stage for the comprehensive desert planning process that is so urgently needed.

A. Fast-track process

The fast-track initiative involves a limited number of proposed solar projects. It offers an opportunity to gain experience with processing these projects in compliance with existing environmental laws. As indicated above, the environmental community will be applying our criteria to the fast-track projects, and we encourage you both to do so as well. Our criteria

should be helpful in this effort. Since the overarching objective is to get some projects approved by a specific deadline and on line as fast as possible, it is important to know which, if any, of the projects under consideration are likely to generate controversy and, if so, how much. Applying our criteria to the lands covered by those applications will provide information for use in answering those key questions, information that can help the BLM, the state and project proponents prioritize their respective investments of time, staff and money.

We also hope that the state and federal agencies will take this opportunity to begin to work together in new and effective ways. In particular, because of the importance of ensuring that California's renewable energy needs are met from a combination of private and public lands – a principle adopted by the state's Renewable Energy Transmission Initiative – the state and the federal government should incorporate a landscape perspective in evaluating where facilities should be sited, including lands beyond their respective jurisdictional boundaries. For example, the state should evaluate the fast-track projects located on federal lands specifically in terms of 1) their adjacency to private lands that meet our criteria, and 2) the potential suitability of those lands for renewable development. Because BLM only manages public lands, the agency is unlikely to engage in such analysis on its own. Where projects have this potential advantage it should not be ignored as it will likely mean more public support for them.

B. The PEIS process

We support the BLM's decision to prepare a programmatic environmental impact statement (PEIS) on large-scale solar development on public lands and its decision to identify particular public land areas for that development. We emphatically believe that some areas are better for such development than others and support clustering large-scale projects in such areas, rather than see them strewn across California's deserts. Again, however, the agency's PEIS process is not a comprehensive effort – like the fast track effort, it will focus only on public land and only on solar projects. Nonetheless, it offers the opportunity to make progress toward the critically important comprehensive plan that is urgently needed.

The state should supplement the BLM's analysis of federal lands with its own contemporaneous analysis of the suitability of private lands adjacent to at least some of proposed SEZ for renewable development. Such an examination would have multiple benefits. It would assist both BLM and the state in assessing the cumulative impacts of proposed renewable development in the Desert. It would also assist both the BLM and the state in rating the zones and determining which of them should actually be designated as pilot project areas. And it would provide a forum for integrating the current Renewable Energy Action Team (REAT) planning and mapping into the SEZ planning.

This kind of integrated planning across the state-federal boundary is absolutely necessary. It can only happen, however, if both of you commit to it and instruct your staffs to engage in it. Without direction, past experience has shown that communication and coordination will be fragmented and progress toward shared goals will be delayed and in some cases compromised.

IV. Long-term planning

In the end, what is needed is a long-term blueprint for the CDCA: a comprehensive, strategic planning process for renewable energy development that addresses the multiple land uses and values in the desert, including conservation, recreation, tourism, cultural sites, military testing and training, local economic development, and transportation infrastructure, as well as renewable energy. We urge the federal and state agencies to commit to working together in a transparent public process to develop such a common plan. This blueprint should include well-defined, measurable standards, developed via public involvement processes (e.g. habitat condition and/or population-level objectives).

The blueprint should also reflect the best science available and specifically assess:

- Direct and indirect cumulative impacts
- Rare, sensitive, threatened and endangered species and wildlife corridor needs
- Climate change adaptation needs
- Carbon sequestration value of intact habitat
- Ecological process needs
- Ecological thresholds /limits for development
- Maintenance of hydrology in these arid environments

Finally, this planning process must also provide meaningful opportunities for public participation by a broad array of stakeholders.

The Desert Renewable Energy Conservation Plan, created as a state Natural Community Conservation Plan (NCCP) and coupled with the federal Habitat Conservation Plan (HCP) process, would provide an appropriate framework for a long-term blueprint, but will require a strong commitment between the federal and state agencies to work in partnership to produce this plan. In addition, local jurisdictions with land use authority (e.g., counties) should also be included as partners in this effort since they permit the other renewable energy facilities outside of the California Energy Commission's jurisdiction. The NCCP process provides sound conservation standards for long-term regional planning, independent science, and a broad public process. The NCCP with an HCP will also result in streamlined endangered species permitting, a considerable benefit for renewable energy companies.

Our groups look forward to discussing the attached criteria with you and your staffs as well as the processes underway and the long-term blueprint summarized above. In conclusion, we again urge you to use our criteria in these processes and to work closely together to maximize the protection of biologically important lands across land ownerships in the California Desert.

Sincerely,

Johanna H. Wald, Senior Attorney
Natural Resources Defense Council

Kim Delfino, Regional Director
Defenders of Wildlife

Nancy Karl, Executive Director
Mojave Desert Land Trust

April Sall, Conservation Director
The Wildlands Conservancy

Dan Taylor, Director of Public Policy
California Audubon Society

Nick Ervin, Board President
Desert Protective Council

Carl Zichella
Western Renewable Projects Director
Sierra Club

Ileene Anderson, Public Lands Desert
Director - Center for Biological Diversity

Alice Bond, Public Lands Associate
The Wilderness Society

Monica Argandona, Desert Program
Director - California Wilderness
Coalition

Michael Sweeney,
Executive Director, California
Chapter - The Nature Conservancy

Appendix B

Audubon California
California Native Plant Society * California Wilderness Coalition
Center for Biological Diversity * Defenders of Wildlife
Desert Protective Council * Mojave Desert Land Trust
National Parks Conservation Association
Natural Resources Defense Council * Sierra Club * The Nature Conservancy
The Wilderness Society * The Wildlands Conservancy

Renewable Siting Criteria for California Desert Conservation Area

Environmental stakeholders have been asked by land management agencies, elected officials, other decision-makers, and renewable energy proponents to provide criteria for use in identifying potential renewable energy sites in the California Desert Conservation Area (CDCA). Large parts of the California desert ecosystem have survived despite pressures from mining, grazing, ORV, real estate development and military uses over the last century. Now, utility scale renewable energy development presents the challenge of new land consumptive activities on a potentially unprecedented scale. Without careful planning, the surviving desert ecosystems may be further fragmented, degraded and lost.

The criteria below primarily address the siting of solar energy projects and would need to be further refined to address factors that are specific to the siting of wind and geothermal facilities. While the criteria listed below are not ranked, they are intended to inform planning processes and were designed to provide ecosystem level protection to the CDCA (including public, private and military lands) by giving preference to disturbed lands, steering development away from lands with high environmental values, and avoiding the deserts' undeveloped cores. They were developed with input from field scientists, land managers, and conservation professionals and fall into two categories: 1) areas to prioritize for siting and 2) high conflict areas. The criteria are intended to guide solar development to areas with comparatively low potential for conflict and controversy in an effort to help California meet its ambitious renewable energy goals in a timely manner.

Areas to Prioritize for Siting

- Lands that have been mechanically disturbed, i.e., locations that are degraded and disturbed by mechanical disturbance:
  - Lands that have been "type-converted" from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use).[1]
- Public lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of the CDCA:[2]
  - Allow for the expansion of renewable energy development onto private lands.
  - Private lands development offers tax benefits to local government.
- Brownfields:
  - Revitalize idle or underutilized industrialized sites.
  - Existing transmission capacity and infrastructure are typically in place.

- Locations adjacent to urbanized areas:[3]
    - Provide jobs for local residents often in underserved communities;
    - Minimize growth-inducing impacts;
    - Provide homes and services for the workforce that will be required at new energy facilities;
    - Minimize workforce commute and associated greenhouse gas emissions.
- Locations that minimize the need to build new roads.
- Locations that could be served by existing substations.
- Areas proximate to sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- Locations adjacent to federally designated corridors with existing major transmission lines.[4]

High Conflict Areas

In an effort to flag areas that will generate significant controversy the environmental community has developed the following list of criteria for areas to avoid in siting renewable projects. These criteria are fairly broad. They are intended to minimize resource conflicts and thereby help California meet its ambitious renewable goals. The criteria are not intended to serve as a substitute for project specific review. They do not include the categories of lands within the California desert that are off limits to all development by statute or policy.[5]

- Locations that support sensitive biological resources, including: federally designated and proposed critical habitat; significant[6] populations of federal or state threatened and endangered species,[7] significant populations of sensitive, rare and special status species,[8] and rare or unique plant communities.[9]
- Areas of Critical Environmental Concern, Wildlife Habitat Management Areas, proposed HCP and NCCP Conservation Reserves.[10]
- Lands purchased for conservation including those conveyed to the BLM.[11]
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes.[12]
- Proposed Wilderness Areas, proposed National Monuments, and Citizens' Wilderness Inventory Areas.[13]
- Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands.[14]
- National Historic Register eligible sites and other known cultural resources.
- Locations directly adjacent to National or State Park units.[15]

EXPLANATIONS

[1] Some of these lands may be currently abandoned from those prior activities, allowing some natural vegetation to be sparsely re-established. However, because the desert is slow to heal, these lands do not support the high level of ecological functioning that undisturbed natural lands do.

[2] Based on currently available data.

[3] Urbanized areas include desert communities that welcome local industrial development but do not include communities that are dependent on tourism for their economic survival.

[4] The term "federally designated corridors" does not include contingent corridors.

[5] Lands where development is prohibited by statute or policy include but are not limited to:

National Park Service units; designated Wilderness Areas; Wilderness Study Areas; BLM National Conservation Areas; National Recreation Areas; National Monuments; private preserves and reserves; Inventoried Roadless Areas on USFS lands; National Historic and National Scenic Trails; National Wild, Scenic and Recreational Rivers; HCP and NCCP lands precluded from development; conservation mitigation banks under conservation easements approved by the state Department of Fish and Game, U.S. Fish and Wildlife Service or Army Corps of Engineers a; California State Wetlands; California State Parks; Department of Fish and Game Wildlife Areas and Ecological Reserves; National Historic Register sites.

[6] Determining "significance" requires consideration of factors that include population size and characteristics, linkage, and feasibility of mitigation.

[7] Some listed species have no designated critical habitat or occupy habitat outside of designated critical habitat. Locations with significant occurrences of federal or state threatened and endangered species should be avoided even if these locations are outside of designated critical habitat or conservation areas in order to minimize take and provide connectivity between critical habitat units.

[8] Significant populations/occurrences of sensitive, rare and special status species including CNPS list 1B and list 2 plants, and federal or state agency species of concern.

[9] Rare plant communities/assemblages include those defined by the California Native Plant Society's Rare Plant Communities Initiative and by federal, state and county agencies.

[10] ACECs include Desert Tortoise Desert Wildlife Management Areas (DWMAs). The CDCA Plan has designated specific Wildlife Habitat Management Areas (HMAs) to conserve habitat for species such as the Mohave ground squirrel and bighorn sheep. Some of these designated areas are subject to development caps which apply to renewable energy projects (as well as other activities).

[11] These lands include compensation lands purchased for mitigation by other parties and transferred to the BLM and compensation lands purchased directly by the BLM.

[12] Landscape-level linkages provide connectivity between species populations, wildlife movement corridors, ecological process corridors (e.g., sand movement corridors), and climate change adaptation corridors. They also provide connections between protected ecological reserves such as National Park units and Wilderness Areas. The long-term viability of existing populations within such reserves may be dependent upon habitat, populations or processes that extend outside of their boundaries. While it is possible to describe current wildlife movement corridors, the problem of forecasting the future locations of such corridors is confounded by the lack of certainty inherent in global climate change. Hence the need to maintain broad, landscape-level connections. To maintain ecological functions and natural history values inherent in parks, wilderness and other biological reserves, trans-boundary ecological processes must be identified and protected. Specific and cumulative impacts that may threaten vital corridors and trans-boundary processes should be avoided.

[13] Proposed Wilderness Areas: lands proposed by a member of Congress to be set aside to preserve wilderness values. The proposal must be: 1) introduced as legislation, or 2) announced by a member of Congress with publicly available maps. Proposed National Monuments: areas proposed by the President or a member of Congress to protect objects of historic or scientific interest. The proposal must be: 1) introduced as legislation or 2) announced by a member of Congress with publicly available maps. Citizens' Wilderness Inventory Areas: lands that have been inventoried by citizens groups, conservationists, and agencies and found to have defined "wilderness characteristics." The proposal has been publicly announced.

[14] The extent of upland habitat that needs to be protected is sensitive to site-specific resources. For example: the NECO Amendment to the CDCA Plan protects streams within a 5-mile radius of Townsend big-eared bat maternity roosts; aquatic and riparian species may be highly sensitive to changes in groundwater levels.

[15] Adjacent: lying contiguous, adjoining or within 2 miles of park or state boundaries. (Note: lands more than 2 miles from a park boundary should be evaluated for importance from a landscape-level linkage perspective, as further defined in footnote 12).