

**Testimony of Steven Malnight
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Before the

**Energy and Mineral Resources Subcommittee
Committee on Natural Resources
U.S. House of Representatives**

**Congressional Field Hearing on
“Solar Energy Development on Federal Lands: The Road to Consensus”**

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Chairman Costa, Ranking Member Lamborn, and Members of the Subcommittee, my name is Steve Malnight. I am very pleased to appear before you this morning on behalf of Pacific Gas and Electric Company to provide an overview of some of PG&E’s activities relative to solar energy and to offer some thoughts on this important subject. As PG&E’s Vice President of Renewable Energy, I oversee our renewable energy business initiatives and thank the leadership of this Subcommittee for holding this field hearing to examine the current state of solar energy development.

Investments in renewable resources, including solar resources, create jobs, reduce air pollution and greenhouse gas emissions, and move us toward a low-carbon economy in California and across the nation. Vitally important is the support and role of the federal government in expanding the development of solar energy, including policies related to federal lands that can help or hinder renewable energy expansion.

The American Recovery and Reinvestment Act of 2009 (ARRA or Economic Stimulus Package) has provided a foundation of support for the development of solar and other renewable energy resources in a time of economic uncertainty. The renewables industry has benefitted from the certainty provided by these longer-term, critical extensions and modifications of investment and production tax credits. The grants and loan guarantees are also expected to assist with financing of solar energy projects. Development of these projects can help invigorate our economy and support a new green energy paradigm.

We are also encouraged by the Department of Interior’s (DOI) investment of \$41 million from the economic recovery package to facilitate large-scale production of renewables on Bureau of Land Management (BLM) land. But more progress needs to be made to ensure that federal land management policies are respectful of the environment yet supportive of state and, ultimately federal, RPS programs. Development of such policies could result in streamlined siting procedures that promote solar development and lead to the delivery of more renewable energy to PG&E’s customers.

Overview of PG&E Projects

Pacific Gas and Electric Company, headquartered in San Francisco, California, is one of the largest utility companies in the United States. The company provides natural gas and electric power to approximately 15 million people throughout a 70,000-square-mile service area in northern and central California. PG&E proudly delivers some of the nation's cleanest energy to our customers. On average, approximately half of the electricity we deliver to customers comes from sources that are either renewable and/or emit no greenhouse gases. In 2008, approximately 12% percent of our electric delivery mix was from California-eligible renewable resources. As defined in California Senate Bill 1078, which created California's renewable portfolio standard, an eligible renewable resource includes geothermal facilities, hydroelectric facilities with a capacity rating of 30 MW or less, biomass, biogas, biodiesel, fuel cells using renewable fuel, selected municipal solid waste facilities, solar facilities, wind facilities, as well as ocean wave, ocean thermal, and tidal current technologies.

In 2009, PG&E has forecasted 15% of its energy deliveries to customers will come from eligible renewables, another 16% from large hydroelectric resources that are not eligible for the state's RPS, and 20% from nuclear energy, which has zero carbon emissions.

PG&E is actively pursuing renewable generation resources on behalf of our customers. Renewable energy is what our customers consistently tell us they want; it furthers our efforts to meet the California renewable portfolio standard, which requires that 20 percent of our electric power be derived from renewable energy sources by 2010, a policy goal that PG&E strongly supports, and it allows us to better manage our future cost risk, on behalf of customers and shareholders, by taking volatile fuel prices out of the cost equation for this portion of our generation.

Since 2002, PG&E has signed more than 40 contracts with existing and new facilities that use or plan to use wind, geothermal, biogas, biomass, and solar as their fuel source. Solar energy is an especially attractive renewable power source for because it is available when power is needed most in California – during the peak mid-day summer period. PG&E's portfolio includes both solar photovoltaic and solar thermal technologies. Since early 2008, PG&E has entered into five solar contracts, three using solar PV technology and two using solar thermal (or concentrated solar power) technologies. One of the PV facilities, Semptra's El Dorado facility in Boulder City, Colorado, has achieved commercial operation, while the other solar facilities are still being developed.

Technological innovation and incorporating "learning curve" benefits are expected to reduce the cost of solar technologies over the next few years, leading to higher levels of solar development. For example, a study prepared by the National Renewable Energy Laboratory (NREL) on the potential for concentrated solar power, or CSP, in California and the rest of the Southwest U.S. indicated that CSP in California could produce upwards of seven times the energy needed to serve the state. NREL also suggests that costs for CSP technologies could decline significantly, from approximately 16 cents per kilowatt-hour on average today, to approximately 8 cents per kilowatt-hour in 2015. The halving of the cost of this energy in seven years is premised on an assumption that at least 4,000 MW of CSP will be built by then – not just contracted for -- to

achieve “learning curve” benefits. In summary, getting the facilities built is a crucial element of reducing costs in the long run.

We are also impressed by the progress being made in reducing the cost of photovoltaic (PV) technology and look forward to a healthy competition between CSP and utility-scale photovoltaics to meet the peak electric needs of California customers. We expect the competition between the two solar technologies will help our customers over time by bringing the cost overall of solar energy down.

There are challenges to fully realizing the potential of these clean, renewable, domestic energy resources. As a load-serving entity subject to meeting California’s RPS requirements, our perspective is primarily driven by our role as one of the nation’s largest purchasers of renewable power through power purchase agreements. In light of the financial crisis and resulting credit freeze -- and in order to help assure that we will have the renewable energy projects needed to meet our California RPS obligations -- we have also recently been exploring development of a potential 750 MW solar site near Cadiz, in San Bernardino County.

We acknowledge the potential tension between important environmental and conservation needs and state and national imperatives to decarbonize energy sources in light of climate change, but we remain confident that, through hearings such as this, policy makers can reconcile those tensions and meet both important objectives.

Given the amount of overlap with federal lands and agencies for projects in the West, it remains critical that efforts continue to address the following areas:

A. Transmission

A significant challenge we face in bringing renewable energy resources online faster is the lack of transmission lines to the areas where the renewable resources are located. In California, for example, most large-scale concentrated solar power generating facilities are sited in remote desert locations, far away from the areas where the electricity is needed most. Across the West, thousands of miles of transmission lines will be needed to significantly expand renewable energy production, including paths on or around Federal lands. It would be no exaggeration to say that only with increased transmission capability can the benefits of renewable resources be fully realized.

One way to facilitate added transmission would be through better coordination among agencies. In addition to better coordination, streamlining the reviews required by state and federal agencies to remove unnecessary overlap or duplicative requirements could greatly enhance the development of transmission lines needed to link renewable energy resources to the grid (and hence, consumers). Carefully-crafted streamlining would not have to come at the expense of protecting critical land, water, and wildlife resources.

B. Project Permitting

Another set of challenges relate to permitting the renewable energy projects themselves. It is helpful that the Subcommittee has asked a representative of the Solar Energy Industries Association (SEIA) to testify regarding those challenges. From our perspective as a renewable energy purchaser, it is worth noting that many of the applications for permits for renewable development are located within the California Desert Region and involve the use of federally managed land. Those that do not involve development on federally-managed land often include a transmission intertie that must cross federally managed land. Adding complexity, in many cases, development in the desert may involve lands that are home to federally listed species and/or habitat. For these reasons, in the vast majority of currently proposed projects, coordination is required between among federal agencies and between federal and state agencies.

We believe that it is possible to satisfy all requirements without duplicating efforts and without compromising environmental goals, if federal and state agencies could rely on a jointly prepared environmental assessment. One of the relevant agencies could be appointed as the lead agency; for example, since BLM is most familiar with the land it manages, it would conduct the visual analysis. Other agencies with relevant expertise in other areas would be placed in a coordinating role.

PG&E strongly supports Secretary Salazar's recent announcement to open four Renewable Energy Coordination Offices with smaller renewable energy teams in other western states. The stated intent to "cut red tape by expediting applications, processing, reviews and permitting of renewable energy projects" is a positive step forward for the challenges solar development faces and builds off the ongoing work by BLM to develop a comprehensive approach to solar projects in the Mojave Desert region and the West.

C. Moving Forward

At PG&E, we are working with policymakers, regulators, and relevant stakeholders to help address these challenges. For example, California's utilities are working closely with state and federal agencies on the Renewable Energy Transmission Initiative, which is expected to identify a prioritized listing of Competitive Renewable Energy Zones (CREZ) and conceptual transmission plans to access these zones. Streamlining the permitting process for transmission lines to reach the CREZs is a critical path item to achieving California's expected 33% RPS goal.

Other activities are centered on streamlining agency permitting activities. Governor Schwarznegger issued an Executive Order in November 2008 to advance California's transition to a clean energy economy and has directed state agencies to create comprehensive plans to prioritize regional renewable projects based on an area's renewable resource potential and the level of protection for plant and animal habitat. To implement and track the progress of the EO, the California Energy Commission (CEC) and the Department of Fish and Game (DFG) signed a Memorandum of Understanding formalizing a Renewable Energy Action Team (REAT).

To streamline the application process for renewable energy development, the CEC and DFG are to create a "one-stop" permitting process with the goal of reducing the application time for

specific projects in half. This will be achieved through the creation of a special joint streamlining unit that will concurrently review permit applications filed at the state level.

To jump start Natural Communities Conservation Plans (NCCPs) under the EO, the REAT will initiate the Desert Renewable Energy Conservation Plan in the priority Mojave and Colorado Desert regions and identify other preferred areas that will benefit from a streamlined permitting and environmental review process. This is expected to dramatically reduce the time and uncertainty normally associated with building new renewable projects.

The CEC, DFG, U.S. Fish and Wildlife Service and the U.S. Bureau of Land Management signed a Memorandum of Understanding to establish a coordinated approach with our federal partners in the expedited permitting process. This coordinated approach is also expected to significantly reduce the time and expense for developing renewable energy on federally owned California land, including the priority Mojave and Colorado Desert regions.

It will take some time for us to see the results of these – and other -- activities to increase the levels of renewable energy in California. As we work to achieve California and the US goals on climate change and to decarbonize energy supply resources, as well as protect land, water, and wildlife resources, the federal government is well positioned to help bring greater clarity through sound policies. We appreciate this Subcommittee's interest in these vital issues, and look forward to working with you, other policy makers, and stakeholders on this journey on the road to consensus. On behalf of PG&E, I want to thank you for the opportunity to appear before you today and I look forward to answering your questions.

Thank you.