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The Solar Alliance

Comments Regarding the Report on Renewable Power in California: Status and Issues

Docket Number CEC-150-2011-002

The Solar Alliance is a national trade association of solar photovoltaic (PV) manufacturers, integrators, and financiers dedicated to accelerating the deployment of solar electric power in the United States through state-based policies. The Solar Alliance appreciates the opportunity to provide the following comments on the staff draft report entitled: "Renewable Power in California: Status and Issues" (Report). Among other matters, the Report covers many topics pertinent to the challenges of implementing Governor Brown's goal of deploying 12,000 MW of localized renewable energy or distributed generation (DG) in California by 2020.

In this regard, the Solar Alliance has strongly recommended that the goal of 12,000 MW be met with an equal mix of "customer-side" and "system-side" resources. Thus, the Solar Alliance supports the CEC proposed MW allocation as displayed in Table ES-2 and Table 3 of the Report. Such allocation provides for a balanced mix of both system-side and customer-side resources while also leaving some of the capacity undefined. This approach provides some flexibility for the market to determine the eventual outcome. The Solar Alliance offers the following comments on sections of the Report pertaining to net metering, permitting and the definition of "Localized Generation".

Net Metering

Given the intent of the Report to include in its evaluation, matters associated with the goal of 12,000 MW of DG by 2020, the Solar Alliance is concerned about the Report's lack of any extensive discussion of net energy metering (NEM), which has been critical to the success of the California Solar

Initiative (CSI) and will remain an important policy for achieving the customer-side renewables deployment goal, particularly from solar energy systems. Moreover, what little discussion there is in the Report provides a mischaracterization of NEM. Specifically the Report labels NEM as a policy that "improves the economics of distributed generation by compensating the self-generation distributed generation owner for electricity generated beyond what is consumed onsite" (p. 172) and that involves "a combination of payment and rebates" (p. 256). Similarly, the Report describes the Marin Energy Authority as offering "a net metering program in which customers are paid for generating their own energy from rooftop solar and other sources" (p. 261 and p. 267). These characterizations of NEM are simply not accurate.

NEM is a simple accounting mechanism that nets a self-generator's production and consumption over the applicable billing period, and also enables any momentary excess energy to serve other grid demands, which in the case of solar generation is often at peak demand periods. NEM customers receive billing credits equal to the value of the temporary surplus energy supplied to the grid. Any excess billing credits carry over to the next billing period with an annual true-up. "Compensation" only occurs if the self-generator still has a surplus at the time of the annual true-up. In point of fact, only a small percentage of NEM customers receive surplus compensation because NEM systems are primarily intended to offset onsite load.[1]

The importance of net energy metering owes to the fact that on-site electricity production may not perfectly match on-site electricity consumption. NEM promotes efficient sizing of customer-generation by crediting production against consumption, thus encouraging customers to size their systems to meet their annual load rather than their peak demand.

[1]According to a recent analysis, only 14% of residential NEM systems qualify as annual net exporters. See Itron, Inc., *CPUC California Solar Initiative 2010 Impact Evaluation*, Final Report, Revised: June 24, 2011. http://www.cpuc.ca.gov/NR/rdonlyres/E2E189A8-5494-45A1-ACF2-5F48D36A9CA7/0/CSI_2010_Impact_Eval_RevisedFinal.pdf

The Solar Alliance seeks to emphasize the critical importance of net energy metering to the achievement of the Governor's 12,000 MW DG goal in light of comments made at the CEC's September 14, 2011 workshop held for the purpose of receiving comment on the draft Report. For example, PG&E suggested that the state abandon NEM and transition to a feed-in tariff structure after the statewide 5% NEM limit is reached. SDG&E asserted that NEM only benefits wealthier customers and that NEM customers shift costs to non-NEM customers. Both utilities stated that NEM is not a sustainable policy over the long term.

The Solar Alliance strongly disagrees with these statements. NEM is one of the few effective methods that electricity customers possess to reduce their demand and manage their current and future energy costs. NEM systems operate much like energy efficiency and demand response to reduce electricity demand and avoid significant societal costs and impacts for all ratepayers. These include avoidance of:

- High and volatile fossil fuel prices used for "traditional" energy generation
- Expensive new capacity to provide peak generation
- Costs of new electric transmission to move remote generation to load centers
- Costs to mitigate ongoing environmental harm, including from GHG emissions.

Additionally, the clean energy industry has provided one of the few bright spots during the present economic downturn. According to the *National Solar Jobs Census*, California's solar industry provided more than 36,000 direct jobs in 2010,[2] not accounting for indirect and induced activities that

[2] http://www.thesolarfoundation.org/sites/thesolarfoundation.org/files/Final%20TSF%20National%20Solar%20Jobs%20Census%202010%20Web%20Version.pdf

likely support another 100,000 workers.[3] Another recent report finds that residential NEM customers will add $28 billion to the California economy and sustain 20,000 jobs annually through 2020.[4]

Net-metered solar systems are also providing significant savings for public agencies and schools in a time of shrinking budgets. Public sector applications accounted for fully half of all the solar capacity applied for in 2010 under the CSI. The solar systems to be installed at California schools, water districts, local governments and non-profits will save these groups a total of $2.5 billion in electricity costs over the 30 years of expected operation. Schools alone will save $1.5 billion, which will free up resources to retain teachers and dampen the budget cuts that many districts are facing.[5] Similarly, residential system owners are able to free up more of their household budgets to pay for other important needs.

All of the above illustrate the substantial benefits that net energy metering affords ratepayers. Moreover, the comment that such benefits are available only to the wealthy is simply not supportable. In addition to the aforementioned benefits to schools and other public agencies, analysis of statewide CSI data shows that one-fourth of customers with NEM systems have incomes below the state area median income (AMI) and one-third are seniors. In fact, relatively recent financing models, such as the residential lease and power purchase agreement (PPA), have emerged that make solar investments even more widely accessible across demographic lines by allowing customers to bypass high up-front system investment requirements.

Finally, it should not be forgotten that an explicit goal of the CSI program as established in SB 1 is "market transformation." The CSI Program was designed to be responsive to economies of scale in the California solar market. That is, as the solar market grows, the incentives offered through the program decline, with the expectation that solar system costs will also fall. In fact, installed solar system

[3] Grover has calculated indirect and induced labor multipliers or 1.4 and 2.1, respectively, for the solar industry. See S. Grover,"Energy, Economic, and Environmental Benefits of the Solar America Initiative," August 2007, NREL/SR-640-41998. http://www.nrel.gov/docs/fy07osti/41998.pdf

[4] AECOM, The Impact of Local permitting on the Cost of Solar Power, July 2011. http://www.sunrunhome.com/cost-of-solar/solar-panels/local-permitting

[5] SunPower Corporation, "CSBA and SunPower Partnering to Establish Solar Schools Program." http://us.sunpowercorp.com/about/newsroom/press-releases/?relID=593958

costs have fallen by 25% in the last 30 months[6] Net energy metering has been integral in achieving the market transformation vision of SB 1.

Far from being the "unsustainable" policy described by the state's investor-owned utilities, NEM is integral to achieving the full potential of distributed renewable energy generation, which provides important ratepayer savings and job growth for the State of California. In short, NEM must be maintained to promote efficient sizing of customer-generation systems, continue to provide methods for customers to conserve electricity and minimize their energy costs, and to meet the Governor's 12,000-MW localized renewable energy goal.

Permitting

The CEC correctly focuses on processes that are barriers to reaching the 12 GW goal. Permitting reform is one such area that if improved has significant potential to advance DG and create jobs and tax revenue in the process. For example, the recent AECOM report found that statewide permitting reform could have a positive economic impact of $5.1 billion generated by deeper penetration levels, higher energy savings and more tax revenue resulting from lower costs for residential PV installation over the next 9 years. This reform would also maintain an additional 3,800 jobs per year.[7]

While there has been some improvement to CEQA through recent legislation, the timing is excellent for the state to convene and promote a state guideline as it considers the latest code proposal from the International Code Committee (ICC). The state should establish a working group on a statewide guideline with representation from the State Fire Marshall, the Department of Housing and Community Development (HCD), the Division of the State Architect (DSA), and the Building Standards Commission (BSC) and select local and regional permitting stakeholders. These four agencies are all

[6] Measured from Q1 2009 to Q3 2011.
See: http://www.californiasolarstatistics.ca.gov/reports/quarterly_cost_per_watt/
[7] AECOM report, *Economic and Fiscal Impact Analysis of Residential Solar Permitting Reform*, page 5.

involved in reviewing the new ICC proposal and this collaborative process would inform which parts of the ICC proposal are adopted and pave the way for a statewide guideline which is needed to promote consistency between jurisdictions.

As noted in Chapter 3, there are several initiatives underway seeking to improve the permitting process and quantify the related state benefits. Much of the activity is focused on larger scale projects that trigger environmental review due to land use issues. There is much to be gained from reform for smaller rooftop systems which bear a significant per watt permitting burden. The good news is that there are a handful of regional entities working on permitting reform and streamlined permitting processes. Some of these entities could be the recipient of federal funds under the SunShot initiative that is seeking best in class pilots to grow into regional models. However, waiting for these efforts to fully materialize is unnecessary and could be counterproductive. Many of the multi-jurisdiction streamlining efforts will have commonality, but not be identical. It would be a shame to develop pockets of similar but different regional guidelines across the state due to lack of coordination. The proper role for the state is to be the unifying force that ensures the region's distinct concerns are met without creating unnecessary differences and then making sure these rules are adopted.

The Solar Alliance recommends the state initiate this process with an invitation to the four state agencies and those entities leading regional reform efforts.

Definition of "Localized Generation"

The Report defines localized generation as "renewable DG projects 20 MW and smaller that are interconnected to the distribution or transmission grid"[8] and identifies 3,278 MW of existing DG capacity, including 2,292 MW of wholesale DG (WDG) capacity from 394 facilities.[9] Another recent state report defines distributed generation resources as "grid-connected or stand-alone electrical generation

[8] Page 36.
[9] Page 38.

or storage systems, connected to the distribution level of the transmission or distribution grid, and located at or very near the location where the energy is used."[10] The Report goes on to note that "Because the generation is located near the point where it is needed, distributed generation reduces the need to build new transmission and distribution infrastructure and also reduces losses at peak delivery times. These resources can also help avoid the need for new power plants or expansion of existing plants."[11]

A closer examination of the data in Appendix A leads us to conclude that many of the existing facilities identified as WDG, although meeting the strict size definition, i.e., ≤20 MW, may not actually provide the types of localized benefits generally attributed to distributed generation. Counting these projects toward the Governor's 12,000 MW goal could supplant the deployment of additional WDG capacity that would provide more certain localized and distributed generation benefits. Therefore, the Solar Alliance requests that Staff conduct a more thorough vetting of these projects to determine which projects actually provide "localized" value and only count that capacity toward the Governor's 12,000 MW goal.

Conclusion

The efforts of the CEC are greatly appreciated in producing this helpful Report, and the Solar Alliance appreciates the opportunity to submit these comments regarding net metering, permitting and the definition of localized generation.

[10] California's Clean Energy Future, Implementation Plan, September 2010, page 55. http://www.cacleanenergyfuture.org/
[11] Ibid.