

California Energy Commission

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Clean Coalition Comments on June 22nd, 2012 Lead Commissioner Workshop on Electricity Infrastructure Issues in California

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Introduction

The Clean Coalition is a California-based nonprofit project of Natural Capitalism Solutions. The Clean Coalition's mission is to implement policies and programs that accelerate the transition to a decentralized energy system that delivers cost-effective renewable energy, strengthens local economies, minimizes environmental impacts, and enhances energy security.

The Clean Coalition drives policies to remove the top barriers to Wholesale Distributed Generation (WDG), which is defined as renewable energy systems connected to the distribution grid that sell all electricity produced to the local utility and serve only local load. Since local balancing of energy supply and demand is generally required when more than 20% of energy consumption is served by WDG, the Clean Coalition also advocates for policy innovations to support Intelligent Grid (IG) solutions, such as demand response and energy storage.

The Clean Coalition is active in proceedings at the California Public Utilities Commission, the California Energy Commission, the California Independent System Operator, the Federal Energy Regulatory Commission, and other agencies that shape energy policy in California and other states. In addition, the Clean Coalition designs and implements WDG and IG policies and programs at the state, local, and utility level across the country.

The Clean Coalition recognizes that this is one of the most challenging times in our state's history in terms of energy planning and forecasting, but we cannot emphasize enough the benefits of renewables, especially the WDG market segment. With the possible absence of thousands of megawatts with the eventual retirement of once-through-cooling (OTC) plants and potential continued shutdown of the San Onofre Nuclear Generating Station (SONGS) through summer 2013, the CEC must be prepared to weigh all possible options to ensure that the state of California can make up for the potential shortfall. These options should include acceleration and expansion of the renewable market segment in order to meet the state's demands as well as the state's continuing interest in meeting future RPS targets. The Clean Coalition sees the 2012 IEPR Update as the perfect opportunity for the utilities as well as the CEC to lay out continued commitment to meeting the Governor's RPS goals for 2020 and beyond.

Long-Term Procurement Proceeding (LTPP)

As CPUC Commissioner Florio stated, we realize that many issues that were addressed in the June 22nd workshop will be addressed in the CPUC LTPP proceeding. We are active in the LTPP proceeding and we will continue to contribute actively to ensure that long-term planning will not exclude the rigorous use of renewables and IG solutions.

Once Through Cooling (OTC) and San Onofre Nuclear Generating Station (SONGS)

The ISO stated that a main concern for this workshop and going forward is the retirement of OTC plants which are projected to leave a shortage of energy in Southern California, particularly for the summer of 2013. The Clean Coalition believes that this is the perfect time to expand the WDG market segment in this region, especially considering the difficult transmission access that Southern California faces overall.

We agree with the statement made that OTC plants are neither the most modern nor the most efficient option available. Since needs in the Southern California region are so specific, the CEC should be considering options that provide for cost effective flexibility in long-term and planning commitments, promoting the use of the most modern and cost effective solutions as they become available as OTC plants continue to be retired.

There is a similar situation in terms of the potential permanent retirement of SONGS. In the interest of future planning with all scenarios possible, the CEC should continue to ensure that scenario planning includes the potential for SONGS remaining offline as well as its return. In the event that SONGS remains offline, the CEC should actively pursue the full potential for WDG and IG solutions to fulfill any gaps left by retiring plants. This package of solutions offers rapid and highly flexible incremental deployment where and when it is required. WDG and IG deployment near loads is independent of transmission system constraints, but can offset transmission dependent demand at precisely targeted locations.

*Smart Energy San Diego 2020*¹, found sufficient rooftop capacity for 2,040 MW of solar PV. Rooftop and parking lot solar can be permitted quickly because no CEQA review is required, and interconnection can be expedited because local load should absorb all power produced – such systems do not require CEQA review and typically qualify for Fast Track interconnection approval as they are unlikely to face conservation voltage or transmission related constraints. Accelerating and expanding SDG&E's existing solar PV program with a focus on rooftop PV could develop much of this capacity by 2013 or 2014, depending on program details.

Cost effectiveness must be evaluated, and as the analysis in table 1 below by Powers Engineering² indicates, renewables, including commercial scale rooftop solar, are within the levelized cost range of new gas generation, especially when such plants are operated as intermediate-load plants. CCNG 2008 fleet average capacity factor was 65%³.

¹ http://www.etechnology.com/new_pdfs/smartenergy/52008_SmE2020_2nd.pdf

² Calculating the value of rooftop solar, Bill Powers, *Natural Gas & Electricity*, Vol 28, January 2012 available online at: <http://onlinelibrary.wiley.com/doi/10.1002/gas.21580/full#note12>

³ CEC, *Comparative Costs of California Central Station Electricity Generation*, January 2010, p. C-12. Table C-5: Combined-cycle Facility Capacity Factors. Average capacity factor for 15 California combined-cycle plants in 2008 is 65 percent. Additionally, CPUC assumes a 65 percent capacity factor for combined-cycle units in *Inputs and Assumptions to 33% Renewables Portfolio Standard Implementation Analysis*, prepared by E3 for CPUC, July 2009.

Table 1. Effect of Capacity Factor on LCOE from New Combined-Cycle Plant

Capacity Factor (%)	LCOE, 2009 (\$/MWh)	LCOE, 2013/2014 (\$/MWh)	LCOE, 2018 (\$/MWh)
92	118	140	161
75	124	147	169
65	134	158	183
55	146	173	199

Note: CEC provides LCOE values for online dates of 2009 and 2018. The values included for 2013–14 were calculated by Powers Engineering and are the average of the 2009 and 2018 values.

Rooftop solar offers additional value in avoided levelized Transmission Access Charges (TAC) of 1.7¢/kWh and local Time of Delivery (TOD) value, which can be extended with incentives to install with a more western orientation.

While renewable sources are cost effective and should be the first choice in meeting demand, Energy Efficiency, reducing the need for capacity, should remain central to planning, also offering rapid, targeted, cost effective deployment.

Intelligent Grid Solutions

Other options that the CEC should consider in its long-term planning is the use of energy storage (ES) and demand response (DR) (as well as other intelligent grid options) to fill the gaps left by retiring plants. This was briefly addressed by several presenters and in comments from the public, but the Clean Coalition wishes to especially emphasize DR and ES for several reasons.

- DR and ES are both zero emission solutions that increase reliability and capacity especially during peak demand, which should be of utmost priority in this case in addition to cost effectiveness;
- DR and ES can enable high penetrations of variable generation, such as wind and solar;

A concern brought up by both the ISO and the CEC was the need for inertia in the electrical system in order to serve load. The Clean Coalition joins other parties in highlighting that ES could potentially play a pivotal role in meeting this need, especially in terms of curbing any potential higher costs to ratepayers, as noted by SDG&E and CPUC Commissioner Florio.

In addition to DR and ES, the Clean Coalition wishes to emphasize the overall benefits of using IG solutions to incrementally accommodate some or all of the shortfalls in services and capacity

left by OTC and SONGS. The Clean Coalition strongly advocates that the CEC consider other IG solutions such as electric vehicles (which have the potential for rapid localized DR) and ES capacity used in conjunction with effective near-term forecasting as well as grid impact modeling. This integration can allow for more refined, efficient control and use of resources. In addition, smart grid pilot program opportunities can leverage these features as an effective alternative to making excess long-term capital commitments to new gas generation. While both approaches will take years to deploy in large capacity, EVs represent a resource which will be available regardless of generation planning, and failing to make full use of this resource would be grossly inefficient. Timely implementation of IG and incentives to support the adoption of EVs where together this provides the greatest combination DR, ES and air quality benefits can effectively accelerate the planned deployment of this resource.

Recommendations

Based upon the above discussion, the Clean Coalition recommends the following:

- The CEC should support the targeted expansion of the WDG market segment in the Southern California region contribute in addressing constraints and shortfalls in the energy system (this applies to planned OTC retirement and SONGS uncertainty);
- The rigorous use of IG solutions (including DR and ES) in Southern California to ensure system reliability and cost effectiveness to the ratepayer;
- For future workshops, the Clean Coalition recommends further attention to the WDG market segment and IG solutions, consistently incorporating them into future presentations and discussion.

The Clean Coalition looks forward to continuing it's collaboration with the Commission in 2012 to assist in developing these recommendations for incorporation into the next IEPR.

Respectfully submitted,

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