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Los Angeles Business Council written comments
California Energy Commission
IEPR Committee Workshop
May 23, 2011

Distributed Generation – Getting to 12,000 MW by 2020
Request for Comments
The IEPR Committee requests that parties address the following in the panel discussions and public comment portions of the workshop and in written comments. The questions are organized by topic in the workshop.
Written comments are due to the Energy Commission by 5:00 p.m. on **May 23, 2011**. Please see the workshop notice for instructions on how to submit written comments: http://www.energy.ca.gov/2011_energypolicy/notices/2011-05-09_workshop_notice.pdf

I. Developing Interim and Regional Targets for 12,000 MW by 2020
1) Please suggest a methodology for setting interim and regional targets building to the 12,000 MW goal by 2020. Considerations to address include: state and local policies, the capability of the distribution system, economics, and resource availability. To aid discussion, staff has identified the following options for parsing out the goal:

- Set targets for each load serving entity or county.
- Set targets per sector, for example, residential, commercial, public, or other.
- Set separate targets for installations that serve on-site load and for projects that produce energy for wholesale.
- Set targets by utilities' portion of coincident peak.
- Set targets based on resource potential and/or best use of the distribution system.

LABC believes that the state's economic development goals, job creation and leveraging private investment in California should be strongly considered when setting targets for distributed generation.

LABC supports parsing out these goals by load serving entity and by sector: residential, commercial, multifamily, and public. We also support targets that make best use of the current distribution system so that grid upgrades neccesary for additional capacity in some areas can be done later, after monies for grid administration and grid upgrage were built into the program's incentives in its initial years.

LABC does not support separate targets for installations that serve on site load vs. wholesale, nor do we support targets based on utilities portion of coincident peak.

2) Related to the above question, some utilities have noted in the California Public Utilities Commission's Rule 21 Working Group and its Renewable Distributed Energy Collaborative (Re-DEC) that up to 15 percent of peak load for individual circuits

could reliably interconnect with minimal system upgrades. Other utilities have said that individual circuits could handle distributed generation additions for up to 50 to 100 percent of minimum load. Could a 15 percent of peak load or 50 to 100 percent of minimum load penetration rate be implemented statewide? If so, how much renewable capacity would be installed per utility?
NA

3) Please provide comments on any methodologies discussed at the workshop. Indicate whether you support or oppose a particular approach and the rationale for your position.

The LABC is a strong proponent of a Feed in Tariff (FiT) to spur distributed generation of solar energy in the city of Los Angeles. Currently we are working with the LADWP, the Mayor and the City Council on the establishment of CLEAN LA program pilot for 2011 and 150MW FiT to run through 2016 and potentially 450 MW to run through 2020.

Our involvement began with the Mayor Villaraigosa's November 2008 call for 1280 MW solar program that would include 150 MW Feed-in Tariff (in basin) solar power, LABC saw this issue as a critical economic opportunity for the city. With the prospect for potential solar rooftop prodcution of over 19GW in LA County and 5GW in the city of LA we knew that if the right policies were set in place significant economic development for the region would follow.

LABC engaged with UCLA's Luskin Center to do three succeeding studies on the issues around designing an effective FiT, and in doing so came up with a proposal that would have the right tariff structure to pay for itself over time and not be a burden to the City's ratepayers.

The study found that those places that have successful FiT programs have set their tariffs based on the actual cost of installing and operating solar plus a reasonable rate of return. A second feature of larger successful programs is that the feed-in tariff policy is used to achieve the dual goals of renewable energy generation and economic development.

The study also identified many important design elements of feed-in tariffs and discussed how alternative designs for each element affect the performance of the policy. The speed with which feed-in tariffs will generate renewable power and jobs depend most importantly upon a) the basis for calculating the tariff and b) the administrative requirements for participating. Cost-based tariffs and simple, costless application and grid inter-connection procedures will generate the most renewable power and jobs in the shortest time period. The size of the program cap determines how much power and many jobs will be created. The other design elements of feed-in tariffs, such as customer or project caps and differentiated tariffs, simply determine which segments of the in-basin market (residential, medium and large scale public and commercial projects) will most benefit from the policy.

As noted above cost effectiveness was a critical consideration of program design. Because rooftop solar produces energy during the hours of peak demand, so the costs of solar must be evaluated against other peak generation alternatives. An in-basin FiT

program will be cost-effective if ratepayers pay the same amount for the solar electricity as they do for electricity from peak-cycle natural gas turbines. First, program tariffs must be high enough to induce participation but not so high as to overburden ratepayers. Second, the program should focus on those types of solar projects that can produce solar power most cheaply such as large commercially-owned rooftop projects that can take advantage of federal tax incentives. Third, the program has to be large enough so that the benefits offset the program's fixed costs. Finally, the phase in period must be long enough so that the cost savings to ratepayers in the second-half of the program's life-span are large relative to peaking natural gas generation.

The study found that tariffs must be adjusted periodically based on participation or on a "cost-plus reasonable rate of return" model. Importantly, the application and interconnection process must be simple, transparent, and timely to reduce costs for applicants and delays for the utility. To maximize the benefits to the distribution network, LADWP could create incentives that steer additional capacity to geographically advantageous locations.

4) Should the state create incentives or penalties to ensure achievement of targets? If so, please suggest program design and implementation.

LABC believes that similar to AB 32 and SB 375 targets should be legally binding in order to ensure compliance by all utilities including municipals.

We do believe that penalties and incentives would be helpful. Other states, such as New Jersey have set up an ACP (alternative compliance payment) that ensures compliance with milestones by having utilites pay a penalty measured in mw hours for not complying with milestones. Obviously, this ACP needs to be large enough so utility is incentived to meet the milestones rather than pay the ACP fee.

Another possible penalty would be the threat of giving special renewable programs and funding over to third party adminstrators if milestones aren't met.

One possible incentive for CPUC regulated IOU's could be the approval of bonus payments to executives and shareholders upon meeting or exceeding approved milestones.

Finally we strongly suggest that on program design that milestones should only be counted upon interconnection, not upon approved reservation. Too often utilites count the reservation toward meeting the RPS, yet these projects are delayed and unbuilt.

5) If the state established regional targets, should there be options to trade allocation requirements? If so, how should this be implemented?
NA

6) What are the near-term and long-term actions needed to achieve 12,000 MW by 2020?
LABC supports establishing clear goals as soon as possible with real incentives and penalities so that utilities will do the strategic planning to ensure they meet those goals. In addition we strongly support strong benchmarking requirements so that entities can be held accountable through out the process.

In the near term, LABC also feels that it is important to implement SB32, the feed in tariff bill that was signed into law two years ago.

We also would highlight the LA City Controller Wendy Greuel's audit on LADWP's renewable goals which had three major suggestions: the need for utilities to have a consistent renewable strategy, to develop a clear financial plan to meet those goals, and the need for a more transparent process so ratepayers know the true cost of renewable power.

http://controller.lacity.org/stellent/groups/electedofficials/@ctr_contributor/documents/contributor_web_content/lacityp_014034.pdf

II. Discussion on European experience integrating large amounts of DG2

7) How are the European electrical distribution systems similar to or different from California?
NA

8) What challenges have European countries encountered from integrating distributed renewables that are applicable to California, what actions did they take to address the challenges, and what lessons are applicable to California?

Many of the best practices such as allocation caps and declining tariffs are detailed in J.R. DeShazo's Phase III study for LABC on the FiT, "Best Practices in North America." While not a look at Europe specifically, it has some key recommendations gained from comparing programs across this continent.

Best practices for implementation of a Feed-in tariff program included:

- Single price for bundled electricity and environmental attributes
- Simplified contract relative to utility or commercial PPA
- Nonrefundable fees
- Refundable, performance-based development deposits
- Development milestones
- Assignability of contract by participant
- Participant termination rights
- 30 day cure periods

Other areas that were indentified as opportunities for improvement:

- For oversubscription to programs one could utilize transparent project selection criteria. So called, *First come, first served* and *lottery* systems are often inefficient and inequitable use of public resources. Instead, ideally creating selection criteria should support overall program goals, such as minimizing transaction costs,

minimizing grid impact and upgrade costs, and maximizing social benefits. For example a selection criteria on a "point system" could: favor projects that have the least network impact and upgrade costs, invest in disadvantaged communities, show the greatest ability to perform (financial, development) and also may appeal to labor and local content preferences.

9) As California builds out its distribution system, what lessons can be learned from the European experience?

We would certainly recommend that a detailed analysis of distribution network capacity and load should be used to guide priortization of connecting distributed generation to the grid. There are several ways to allocate costs for this distribution network upgrade.

Allocating network upgrade costs to individual participants in a serial methodology would be complex, inefficient and unfair. It may cause capacity to be clustered, potentially causing concentrated impacts.

Since the benefits are shared network-wide, costs should be shared network-wide. One precedent for strategically solving this problem is the work CAISO did with transmission lines. One could allocate network upgrade costs to all participants equally. Possible ways to do this include conducting "cluster" system impact studies for each queue year, requiring a capacity-based "system benefit" charge from all participants that is designed to cover expected system-wide upgrade costs, and so that the tariff per kWh must account for total cost to participant. Of course another solution is to allocate network upgrade costs to all ratepayers.

III. Discussion of "Developing Renewable Generation on State Property, Installing Renewable Energy on State Buildings and Other State-Owned Property"

10) Please provide comments on the staff report and on lessons learned from the European or local experience that may be applicable to California.

We would like more time to evaluate this issue. Once we receive comments from some of our key stakeholders we will pass them along.

IV. How Research Development and Demonstration (RD&D) can Help Advance Distributed Generation

11) What is the role of RD&D in advancing distributed generation and helping achieve the Governor's *Clean Energy Jobs Plan* and other current and future state policy goals such as the Renewable Portfolio Standard and AB 32?

This is an issue of critical importance. That's why LABC is a founding member of Cleantech LA, a consortium of regional universities, business and government that has

applied for over $600 million in research grants. Members include UCLA, Caltech, USC, JPL and others. We believe that this research will create jobs initially among scientists and researchers, but that it holds the potential to create a much greater number of jobs in the future depending on its success. This research and the technological advances it promises can help DWP meet the goals of the RPS and AB 32 and its own plans for renewables.

http://www.lapowerplan.org/project-documents

(or include handout powerpoint from DWP)

12) Please comment on the maturity of distributed generation technologies. Which technologies or components should RD&D efforts focus on to address some of the barriers for advanced DG deployment?

LABC strongly believes that RD&D needs to focus on storage: on site for generators, in the distribution grid, and in the home, including integration of DG with charging infrastructure for PHEV's. Another area that needs research is the development of an effective permitting process for solar development that replaces outdated codes with a clear statewide code.

13) Are currently existing technologies and tools enough to power facilities with nearly 100 percent renewables in a technically and economically feasible manner? What are some emerging technologies that may be able to reduce costs when produced at scale?

LABC does not believe we yet have all the technology and tools needed to be 100% renewable. But we do believe that solar at scale can be a cost effective solution. Solving the storage challenge will transform both the technical and economics of renewable power.

14) What issues impede the deployment of distributed generation technologies in utility distribution territories that RD&D can help address? If so, please identify the issue and how RD&D can help in a manner that benefits both the utilities and customers.

In addition to the storage issue mentioned above, there are two other areas which we suggest RD&D address: interconnection and smart grid. Pilot programs in these areas can significantly help guide the integration of distributed generation into the grid.

15) What other future research direction, focus, strategies or initiatives may be recommended for PIER to undertake so that RD&D can better help advance DG?

The LABC would suggest PIER examine several issues:

- **Social equity** is a key concern for policy makers that merits statewide analysis. The LABC has recently conducted a regional study entitled *Making a Market:Multifamily Rooftop Solar and Social Equity in Los Angeles*. http://www.labusinesscouncil.org/online_documents/2011/LABC-Exec-Summary-Brochure-2011-Final-r-1.pdf
- **Urban and suburban rooftop analysis** is another area that needs a statewide analysis. UCLA's Luskin center did a study for the Los Angeles region NREL had a study done by Navigant that looked at it nationally. But this should be looked at again on a statewide basis.
    - http://luskin.ucla.edu/content/los-angeles-solar-atlas
    - http://www.nrel.gov/analysis/pdfs/42306.pdf

- **Identifying underutilized distribution networks** is a good opportunity for using analysis to help make distributed generation less costly in the short term.
- Look into how the **MASH program and virtual net metering** be expanded to municpal utilities.
- **Develop utility based programs that integrate models** so that owners of multifamily apartments (1.5 GW of potential in LA out of 5GW), large government buildings, industrial warehouses can all effectively use solar energy.